An Interdisciplinary Polypharmacy Tool in Long Term Care: A Quality Improvement Project

Terrence Montgomery

Touro University--Nevada

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DNP Project Team: Dr. Judith Carrion & Dr. Jessica Grimm

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Abstract

Objective: Polypharmacy is a significant problem in the nursing home population. The purpose of this project was to study the effectiveness of utilizing the Interdisciplinary Team (IDT) within the nursing home to make recommendations regarding medication reduction to the prescribing provider.

Methods: A pre and post chart audit was undertaken of all patients within the facility where the project took place. All medications were accounted for and categorized. Weekly meetings of the IDT over four weeks took place where a medication audit tool was used, and each patient's medications were reviewed. Recommendations from the team were then forwarded to the prescriber for review and implementation.

Results: Thirty-eight patients were reviewed during the project period, with a combined medication count of 670 medications at the start of the project. After the four-week project period all patients had been reviewed by the IDT and a total of 21 recommendations were forwarded to the prescriber. Of those, 18 were approved and implemented. This resulted in a mean reduction in medications per patient of 1.32. Significant reductions were seen in the specifically targeted medication categories of Antipsychotics (17.5%), Benzodiazepines (15%), Opiates (33.3%) Anticoagulants (28.6%), and Insomnia/Hypnotics (75%). A paired samples t-test showed a statistically significant result.

Conclusions: Utilization of the IDT to make recommendations to the prescribing provider provides a complementary tool to address polypharmacy. Interprofessional collaboration is key to improving patient outcomes.

An Interdisciplinary Polypharmacy Tool in Long Term Care: A Quality Improvement Project

Polypharmacy in the elderly population is a significant factor in their morbidity and mortality. Many elderly patients are on multiple medications through different prescribers, and this can be further exacerbated in the nursing home setting (Carroll & Hassanin, 2017). There has been a push in recent years towards the concept of "deprescribing" or making a systematic effort to reduce or eliminate higher risk medications in the vulnerable elderly population (Dharmarajan et al., 2020). In the nursing home setting, the interdisciplinary team of nursing, therapy, pharmacy, social services, and administration are all highly involved with each patient's plan of care including review of medications, their efficacy, and their ongoing need. This project will utilize an interdisciplinary tool to approach deprescribing and polypharmacy in the long-term care population.

Background

Long term care patients are well known to be subject to polypharmacy, and adverse drug events have been shown to be higher by a factor of four in patients on greater than eight medications (Carroll & Hassanin, 2017). One study found that patients discharged from the hospital to the nursing home setting were receiving an average of 14 prescription medications, and over 40% of those medications were associated with debilitating geriatric syndromes in that population (Saraf et al., 2016). Drug interactions with medications such as anticoagulants, antiarrhythmics, narrow window therapeutics such as certain antibiotics, and opiates can present severe risks to the patient ("American Geriatrics Society 2019 Updated AGS Beers Criteria® for Potentially Inappropriate Medication Use in Older Adults," 2019). For example, the prescribing

of multiple medications in various combinations has resulted in adverse effects such as adverse drug events, drug-drug interactions, increased fractures, overdose and even death (Rochon, 2020). Exact statistics are difficult to gather due to the multifactorial nature of the conditions exacerbated by polypharmacy, however meta-analysis of pooled studies has shown that polypharmacy is associated with increased mortality risk using “both discrete and categorical definitions” (Leelakanok et al., 2017).

Problem Identification

Polypharmacy is often a problem identified in elderly patients of long-term care settings (Saraf et al., 2016). These patients are generally discharged from the hospital to the long-term setting with an average of 14 prescribed medications (Saraf et., 2016). Patients are frequently prescribed multiple medications in the hospital to manage various conditions such as hyperlipidemia, ulcer prevention, constipation, coagulopathy, dementia, pain, anxiety, and many others. These medications may not be in the best interest of the patient and may not align with their goals of care (Thompson, 2019). The use of multiple medications may be appropriate in younger patients but can become problematic in the elderly with their differing response to pharmacokinetics (Rochon, 2020). The Beers List is a frequently cited resource for referencing medications that should be used with great caution in the elderly population ("American Geriatrics Society 2019 Updated AGS Beers Criteria® for Potentially Inappropriate Medication Use in Older Adults," 2019). In addition, there are other issues that may contribute to the safety of different classes of medications in the elderly (Thompson, 2019). According to Bobo et al. (2019) antidepressants in an elderly population in Minnesota may have been overprescribed 24% of the time in study participants (Bobo et al., 2019). Utilization of a standardized deprescribing

tool in the nursing home setting may help bring an evidence-based rationale to decisions regarding appropriateness of the patient's medications. Also, by utilizing the interdisciplinary team to facilitate recommendations this will foster better collaboration and more holistic care in the decision-making process.

The proposed site for this project is a 64-bed skilled nursing facility in Northern Arizona providing care for a combination of skilled rehabilitation, long term care, and behavioral dementia patients. The facility has consistently struggled with the number of multiple medications prescribed to patients, including psychotropic medications. High numbers of antipsychotic medications will negatively affect a facility's CMS 5-Star rating, and therefore can have an impact on their census and profitability (*CMS.gov*, 2019). The facility is interested in participating to potentially reduce not only overall medication burden, but also antipsychotic percentages to improve or maintain their 5-Star rating.

Project Question

In a cohort of nursing home residents, will the implementation of an interdisciplinary polypharmacy reduction protocol reduce the incidence of polypharmacy at the practice site over a four-week period?

Search Methods

A literature review was conducted using following search engines; PubMed, Cinahl and UptoDate. The following search terms were used: polypharmacy and deprescribing. The initial search returned results of over 5000 articles. Filters were then added for the last five years, full text only, and random controlled trials, and an additional filter was added for nursing home and

long-term care facilities. This returned 86 results, and of these 16 were selected as appropriate for the project.

Additionally, using the keyword “deprescribing” on the UpToDate database returned an extensive article under the topic. This was an in-depth article with recommendations, society guidelines, and a list of 122 references. This list included some of the most pertinent articles and studies for the purposes of this project. This list of references was reviewed thoroughly, and an additional seven articles were selected for appropriateness to the project topic.

Inclusion criteria for selection were peer reviewed articles with a focus on the elderly or long-term care population, reference to an interdisciplinary model, and pertinence to the risks of polypharmacy. Additional inclusion criteria were those published from 2015 to 2020 and those with full text available and articles written in the English Language. Exclusion criteria included those articles pertaining specifically to a hospitalized population, articles not in the English language, articles published prior to 2015, editorials, dissertations, and abstracts.

Review of Study Methods

In reviewing the methodologies used in the selected peer reviewed articles, the following were included: systematic reviews, randomized clinical trials, retrospective analyses, cross-sectional studies, observational studies, prospective studies, qualitative studies, and study protocols. The articles used these study methods in a valid and reliable manner and presented content that was aligned with the end goals of the project. In addition, each of the studies shared a common theme of reducing polypharmacy utilizing an interdisciplinary approach in the elderly population.

Randomized Clinical Trials

Review of the literature revealed several randomized clinical trials. According to Alkan et al. (2016); Paque et al. (2019) and Vrettos et al. (2017). The studies focused on medication reduction in the elderly, and each had measurable endpoints in looking for success of the interventions. These studies are important to this DNP project because the idea of medication reduction in the elderly has traction throughout the medical community and is supported by the literature. A patient's goals of care will markedly change the risk/benefit profile of a medication reduction strategy (Thompson, 2019). A patient who desires all aggressive interventions will have a different medication profile than one who desires only palliative care (Todd, 2015). Therefore, discretely measuring the success of a reduction protocol can be skewed by the patient's wishes (Todd, 2015). The literature showed there were few actual randomized clinical trials related to deprescribing of medication in the elderly.

Meta-Analysis

There were several meta-analyses in the literature reviewing the preferences of prescribers, and how to assess and provide education to them on the benefits of medication reduction. In a meta-analysis by Bolmsjo et al. (2016) the author discussed the behavior of general practitioners in relation to deprescribing in Australia and Sweden and looked at how the health care system itself influenced that behavior. In addition, Bell et al. (2017) looked at how interprofessional medication reviews affected medication reduction, with special attention to the roles and experiences of pharmacists and nurses participating in those reviews. Additional meta-analysis looked at how to approach the mindset and behaviors around deprescribing and

assessing the knowledge levels of the prescribers as well as the interdisciplinary team (Bell, et al. 2017; Greiver et al. 2019; Lin et al., 2018; Martin et al. 2018; Schaffer-Shaden et al. 2018).

Study Protocols

Several protocols have been published about implementing a deprescribing protocol. (Schaffler-Schaden et al., 2018; Greiver et al., 2019; Reeve et al., 2014, O'Mahony et al., 2015). These peer reviewed articles looked at protocols relating to specific tools that could be implemented or at specific medications that could be targeted for reduction or elimination.

Cross-Sectional Studies

Cross-sectional studies were also found in the peer reviewed articles. Paque (2018) designed a cross sectional study around medications in nursing home residents with "life-limiting disease". In this study the researchers found that there was not a reduction in medications, but a reduction in "potentially inappropriate medications" that were started in this population with their deprescribing intervention. This study by Paque (2018) proposes the concept that not actively starting a potentially inappropriate medication may be as effective as stopping one that is already being prescribed. This process may be a way to approach the issue of deprescribing medication and helpful when designing a tool or protocol.

Retrospective Analysis

Harstedt et al. (2016) looked retrospectively at a sample of patients following hip surgery. The researchers were able to conclude that the total number of medications correlated positively with the risk of readmission within six months. Additionally, the study found correlations with specific medications to not only rehospitalization, but to those due specifically to falls in a subset of those taking vitamin K antagonists, thiazides, and tramadol. Such studies

validate the recommendations made in the Beers Criteria, which serves as a reference for medications presenting significant risk to the elderly (American Geriatrics Society, 2019).

Systematic Review

There are numerous clinical tools in use throughout the world that function specifically to reduce medications. One article that was a systematic review from the University of Southern Denmark looked at 15 different tools currently in use and critiqued them (Thompson et al., 2018).

Review Synthesis

Review of the literature includes general information about polypharmacy and deprescribing. Medication reduction and addressing polypharmacy are well understood and published topics. There is limited literature on actual studies as it relates to the nursing home/long term care facility setting. There were several themes that were found in the literature. The themes included were polypharmacy, medication reduction, and interdisciplinary approach.

Polypharmacy

One theme that emerged was the definition of polypharmacy. Many articles referred to the Beers Criteria (AGS, 2019) as a well-respected point of reference for assessment of medication risks in the elderly. Published by the American Geriatric Society and updated frequently, the criteria are “based on an extensive review of more than 1,400 studies…The 2019 AGS Beers Criteria® includes five lists of nearly 100 medications or medication classes to avoid or use with caution for some or all older adults”.

Several studies chose to focus on specific medications and their risks (Harstedt et al., 2016); other studies focused more on the risks related to medication burden (Alkan et al., 2017;

Paque et al., 2019; Vrettos et al., 2017). There is a wide spectrum of medications that can pose risks and need to be carefully considered by prescribers. Medication reduction strategies can be targeted to a specific medication or to a general medication profile. The literature shows there are many ways to approach the problem, and the volume of the literature supports the ongoing need for quality improvement in this area.

Interdisciplinary Approach

Several articles also referenced the benefits of interdisciplinary approaches to care and to medication reduction. Bell et al. (2017), Schaffler-Schaden et al. (2018), and Lin et al. (2018) all described utilization of interdisciplinary team members such as pharmacists and nurses to improve the process of medication reduction. This literature supports the project's aim to utilize the interdisciplinary team in the process of reducing unnecessary medications. Some barriers to deprescribing such as patient reluctance may be better overcome by nursing spending additional time with the patient explaining the risks of the medication. Overmedication may be more obvious to the physical therapist measuring a patient's progress than to the provider during a quick routine visit. Communication between the team members will benefit the patient and provide a better overview to the provider when considering medication reduction.

Impact of the Problem

The literature describes the risks of polypharmacy. Finding a global best practice standard is inherently difficult given the wide variety of patients and medications. Narrowing the focus to the nursing home may provide a way to creating a more targeted and measurable intervention. As previously noted, polypharmacy in the elderly population is a significant factor in their morbidity and mortality (Carroll & Hassanin, 2017).

Addressing the Problem with Current Evidence

Current evidence surrounding deprescribing supports efforts to minimize medications in the elderly. The Beers criteria is an excellent resource for medications that may contribute to untoward outcomes in the elderly and can play a foundational role in any attempt at creating a tool or protocol for medication reduction (AGS, 2019). The literature also suggests that limiting the scope of medication reduction efforts may be more effective, as the wider the effort the more difficult it becomes to measure benefit or harm that may come from medication changes (Vrettos et al., 2017). In their study, Vrettos focused mainly on cardiovascular medications and risk reduction related to those specific diseases. Categories of medications such as benzodiazepines, proton pump inhibitors, antihistamines, anticoagulants, and diabetic medications are all well referenced risks in the Beers Criteria. Developing a protocol or tool from the perspective of the specific medication or medication class would be a way to design an intervention for medication reduction.

Project Aims

Polypharmacy is an important quality improvement issue; however, the scope may be extremely broad. The primary aim of this DNP project is to reduce the number of potentially harmful medications by using an interdisciplinary team tool in the long-term care setting.

Interventions relating to medications should focus on patient safety. Removing certain medications can increase the risk for untoward outcome such as with statins and vascular events (Rosenberg, 2019). A medication reduction protocol should include prioritizing patient safety and patient goals of care.

The goal of the project is to use evidence-based practice found in the literature along with recommendations from the interdisciplinary team to develop a medication reduction protocol. The use of a medication reduction protocol will assist in reducing medication burden and improve patient quality of life (Christiaens & Dilles, 2019).

Nursing homes have quality measures relating to the number of medications per patient, psychotropic medications, pain scores, and quality of life measurements that all factor into their CMS 5-Star ratings and subsequently into reimbursement rates (CMS.gov, 2019). Financial penalties for poor quality measures are part of the larger value-based payment programs being instituted by Medicare (CMS.gov, 2019).

Project Objectives

In the five-week timeframe of this DNP project, the host site will:

1. Implement an evidence-based medication reduction protocol and medication reduction tool at the project site.
2. Educate the interdisciplinary team on the medication reduction protocol and tool through a training seminar.
3. Conduct a pre and post chart audit to determine if there is an improvement in the number of medications per patient relating to medication reduction.

Theoretical Framework

A theoretical framework will give guidance and provide a model to follow as the project is planned, constructed, and implemented (Reavy, 2016). The conceptual framework that will guide this project will be the Plan-Do-Study-Act (PDSA) cycle (Appendix A). This is a commonly used framework in quality improvement and used frequently in the nursing profession

for targeted interventions that are amenable to rapid implementation and measurement, and flexibility for revisions and ongoing utilization (Reed & Card, 2015).

Historical Development of the Theory

The PDSA cycle is attributed to W. Edwards Deming, an expert in statistics and quality management (ASQ, 2020). The origin of the theory lies with Walter Shewhart who published "Economic Control of Quality of Manufactured Product" in 1931, which was a foundational book in the development of quality control. Shewhart's theory was referred to as the "Shewhart Cycle" by Deming and was the foundation of Deming's work after World War II when he assisted the Japanese with their reconstruction and helped create the Japanese commitment to quality management (ASQ, 2020). Deming's PDSA cycle was a bridge to other quality frameworks such as Total Quality Management, LEAN, and Six Sigma (Taylor et al., 2014).

Foundations of the PDSA cycle are found in the scientific method of hypothesis, experiment, measurement, and modification of hypothesis (Taylor et al., 2014). This has made it well suited for application within the health sciences, and more approachable for clinicians to use and implement in contrast to some of the more complex theoretical frameworks. PDSA is not healthcare or science specific, however, and plays a role in numerous management quality initiatives. The theory is commonly used in nursing and healthcare and is referenced by the Association for Healthcare Research and Quality as being well suited as a framework for improving processes and implementing change (AHRQ, 2020).

Application to the DNP Project

The PDSA cycle is carried out in four phases. The four phases include: plan, do, study, and act. This plan may be used in a quality improvement project.

Plan

During the "Plan" phase, the project aim, or project question may be translated into a plan. This includes the aim of the plan, the proposed population, the participants or stakeholders, the timeframe, and expected goals and outcomes (CMS, 2020). For this DNP project the PDSA model can be applied. The plan would include creating the standardized interdisciplinary polypharmacy team tool, education of the interdisciplinary team on the project, and the expectation that the implementation of the intervention would result in a decrease in the targeted medications in the long-term care patient population.

Do

The second phase of the PDSA model is "Do". In this phase the project protocol will be implemented. This will include education of the interdisciplinary team on the project, and the subsequent introduction of the project protocol to be used by the interdisciplinary team. Weekly meetings are held in which the team will collaborate on their recommendations during the project period.

Study

The third phase of the PDSA model is "Study". During this phase, all data collected is analyzed and compared with the initial predicted outcomes. Documentation of data and observations of any unexpected events are collated (QAPI PDSA template, 2020). The outcomes may be as expected or may be contradictory or neutral. Care is taken during this phase to also look for confounding variables, interference, or unintended consequences of the intervention. After assessing the data an outcome can be determined for the intervention, whether positive, neutral, or negative (QAPI PDSA template, 2020).

Act

The final phase of the PDSA model, is “Act”. The findings are translated into the next steps. Normally one of three things will occur at this phase as outlined in the Quality Assurance Performance Improvement PDSA template (2020). Should the intervention have had a positive outcome, consideration should be given to expanding the intervention to additional populations both for repeat validity as well as for positive patient outcomes (QAPI PDSA template, 2020). If the outcomes were more neutral, the PDSA cycle can be modified and repeated to compensate for whatever challenges were noted in the data collected. If the results were negative or if any untoward outcome was noted, the study should be abandoned, and a new approach considered (QAPI PDSA template, 2020).

For this project, once the “Act” phase is reached the findings will be formally shared with the facility administrator and executive team. Should the findings of the project be positive, a recommendation would be made to continue the intervention as a normal part of the weekly IDT meeting and incorporate it into the facility as routine practice.

As it relates to healthcare, the PDSA cycle can be used in real time, and can provide rapid feedback on changes made to improve quality measures or outcomes (Taylor et al., 2014). Some of the more notable benefits of a PDSA framework for quality improvement include capacity for rapid implementation, focus on translation of ideas into action, and cost effectiveness (Reed & Card, 2015). For the purposes of this DNP project these three benefits are all very desirable. First, there will be a limited time available for the implementation of the intervention making PDSA a good option. Second, the project is focusing on the translation of research into practice, and the PDSA cycle is focused on that critical point of creating change (Reed & Card, 2015).

Finally, cost effectiveness is imperative as this project does not have the scope of a large grant funded or institutionally supported project.

Major Tenet of the Theory

One of the most notable hallmarks of the PDSA cycle is its simplicity. This however has also been the focus of some criticism of the theory (Reed & Card, 2015). Reed & Card note that the PDSA cycle is touted as being simple and can be implemented by virtually anyone. This is also where the researchers aim some of their criticism (Reed & Card, 2015). PDSA can be considered a "quick and dirty" test of change and may be used to attempt to solve problems that are more complex than are suited to this type of change theory (Reed & Card, 2015). Given the smaller scope and limited time frame of the project, these concerns are unlikely to be an issue. The DNP project is well suited to use the PDSA model to implement a practice change in the project setting.

Project Setting

The setting for this DNP project will be a 64-bed skilled nursing facility in Northern Arizona. The facility is in a city of 43,314 people per the US Census Bureau (2018). The facility has a mix of patient types, averaging approximately 20% skilled rehabilitation patients and 80% long term care residents. Of the long-term care residents, up to 19 of those residents may reside in the locked high-acuity behavioral dementia unit. These patients often have a higher number of prescribed psychotropic medications and are an ongoing concern for polypharmacy and medication interactions. There are approximately 85 total employed staff at the facility of whom 51 are clinical staff consisting of RN's, LPN, and CNA's. Shifts are 8 hours long, and each shift is covered by three licensed nurses and five to six certified nursing assistants. The facility is

certified by Medicare and the Arizona Department of Health Services and is currently rated as a 5-Star facility by the Centers for Medicare & Medicaid Services (CMS).

The facility uses a cloud based electronic medical record (EMR) system for all documentation. The system, PointClickCare, is the leading EMR for the post-acute service line and is estimated to be used by over 60% of the post-acute providers nationally (PointClickCare.com, 2020). The system provides documentation solutions for the facility with regards to progress notes, electronic medication administration records (eMAR), treatment records, Medicare minimum data set (MDS) data capture, and many other functions that allow it to be a single solution for the facility needs (PointClickCare.com, 2020). Medication data collection for the project will come exclusively from this EMR.

Population of Interest

The project will focus on two populations of interest, the direct and the indirect. These are defined as:

- Direct Population of Interest—This will consist of the Interdisciplinary Team (IDT) that meets weekly to review patient's clinical profiles and make recommendations. These are the specific individuals that will be educated on the medication reduction protocol. The inclusion criteria will include the following team members: Facility Administrator, Director and Assistant Director of Nursing, MDS Coordinator, Clinical Pharmacist, Directory of Social Services/Case Management, Director of Physical/Occupational/Speech Therapy, and the Nurse Practitioner. The IDT will be utilizing the medication reduction tool (Appendix C) to make weekly recommendations regarding patient medications. The tool has been developed

specifically for this project and will reference specific categories of medications known to be potentially inappropriate in the elderly population as presented in the AGS Beers Criteria (2019). The team will discuss the pros and cons of these medications for each specific patient and subsequently make recommendations to the medical director for review. The exclusion criteria will include all other employees at the practice site not considered to be part of the IDT.

- Indirect Population of Interest—This will include the facility residents who will be impacted by the recommendations and reductions that occur. They will benefit through the reduction of potentially inappropriate medications and reduction in total medication burden. Inclusion criteria will be all current residents of the facility at the time of the project implementation that will be reviewed by the Interdisciplinary Team. Exclusion criteria will be any residents who are not in the facility during the project implementation phase, such as those that may be hospitalized or on a leave of absence from the facility.

Stakeholders

The stakeholders of this DNP project include the facility administrator. The facility owners are also considered stakeholders, as are the clinical facility staff who are not a part of the IDT. The role of the administrator is important to ensure success of the project. While the facility owners' role is essentially only approval for the project, the facility administrator is a RN and sits in on the IDT meetings and will be providing feedback along with the other IDT members during the project period. The administrator has stated that no affiliation agreements will be required and has given permission to conduct the project at the facility (Appendix B).

Interventions

To meet the project objectives, a timeline of the interventions is necessary. The project implementation consists of five consecutive weeks. The pre-implementation phase will begin in week one and include initial chart audits, and data collection will be completed by the project leader using a chart audit tool. Data collected will include the MAR from each patient chart in the facility as well as the MDS data relating to psychotropic medication use in the facility. In addition, during this week the project leader will provide an in-service to the IDT on the use of the medication reduction tool and project protocol. The in-service will be brief (30 minutes) and provided during the weekly IDT meeting when all members of the team are present. During this meeting, the IDT will receive a handout of the protocol and medication reduction tool.

The following week will begin week two of the project implementation. During this week, the first 25% of the charts based on the letter of the alphabet of the patient's name will be provided to the IDT along with a copy of the MAR and the Medication Reduction Tool. The IDT will discuss the clinical presentation of each patient and review their medications using the Medication Reduction Tool and return the completed tool to the project leader. The project leader will then collate the recommendations from the team and forward them to the Medical Director for review. The review will include the patients who are currently admitted to the building on the first day of the project, as well as new patients admitted during the project period. The remaining weeks will consist of the ongoing weekly chart reviews and use of the Medication Reduction Tool by the IDT to complete the review on all eligible patients. Eligible patients will include all patients admitted to the facility on the first day of the project period, as well as any patients admitted during the project period.

In week five the project leader will complete a post implementation chart audit and analyze the data. An updated copy of the MAR and the MDS data relating to psychotropic medication use in the facility will be retrieved and medications will be cross referenced between the initial and final MAR, and that data will be analyzed by the project leader. A t-test will be used to determine if there was a statistical significance.

Tools

Tools have been developed by the project leader for use in this project. The IDT Medication Reduction Tool will be used by the IDT during medication review (Appendix C). The Project Protocol Education Handout will be used to guide the in-service for the IDT prior to the project start (Appendix D). The final tool is a Chart Audit Tool developed for this project to collect the data relating to the medications and the changes made (Appendix E).

IDT Medication Reduction Tool

The IDT medication reduction tool (Appendix C) was developed by the project leader specifically for this project. The information used to create this tool was derived from evidence-based practice literature used to support this project as well as the American Geriatrics Society Beers List of Potentially Inappropriate Medications in Older Adults (2019). While not all medications on this list are absolutely contraindicated, they are medicines that have a higher-than-average risk profile for the older patient. They should be regularly reviewed for appropriateness, and consideration given to decreasing the dose, transitioning to a safer medication, or cessation. The Beers List is public domain, and no specific permissions are necessary to utilize it.

In developing the tool, the drug classes mentioned in the Beers List were reviewed and five specific classes and one "catch all" class were chosen. Expert consultation was sought and received from the consulting pharmacist as well as the facility medical director in creating the tool and choosing the most appropriate drug categories to focus on for the project. Permission has also been received from the facility administrator for the use of this tool.

The specific drug classes to be reviewed by the IDT were chosen due to their being high risk for adverse events in the nursing home setting. Categories chosen for the tool were psychotropics, benzodiazepines, opiates, anticoagulants, insomnia/hypnotics, and other. The medication reduction tool was designed in a decision tree type of format for efficient use and to facilitate conversation among the IDT regarding any recommendations to be made. The six categories are listed with an initial screening question for each category of whether the patient is receiving a medication in that class. If the answer is no, the team moves to the next drug category. If the answer is yes, the team will answer a second screening question regarding their impression of the patient's symptoms relative to what that medication is indicated to treat (or in the case of anticoagulants, their relative fall risk). Then based on their impression of the patient, the question is posed of whether the team would recommend any reduction or cessation of the medication or medications in question.

Project Protocol Education Handout

The project lead will provide the IDT with the Project Protocol Education Handout (Appendix D). The IDT meets weekly, and in week one they will receive the handout as well as a 30-minute in-service from the project leader on the project and its goals. This handout was developed by the project leader using evidence-based practice and information from the literature

review. The handout and in-service will be to bring the concepts of the project together and ensure the interdisciplinary team members understand what they will be doing as they use the tool each week in the IDT meeting. Any questions regarding the project will be answered at that time. The project lead will also be present during the weekly IDT meetings to facilitate and answer questions as needed. The handout was approved by the facility administrator for use.

Medication Audit Tool

The medication audit tool was developed by the project leader (Appendix E) and will be utilized for data collection both pre and post implementation to calculate the effect of the project intervention. A MAR will be retrieved from each patient eligible for the project on the first day of week one. Data collection will be accomplished for each MAR and will consist of the total number of medications per patient, and the total number of medications in each of the previously mentioned categories. At the end of the project period the same data collection will be again performed on the updated MAR of the same patients. The differences in that data will form the basis for measurement of the success of the intervention. The form was approved by the facility administrator for use.

Study of Interventions/Data Collection

The project lead will begin an initial chart audit of data collection in the first week of the project implementation phase. A facility census will be obtained that enumerates each patient currently admitted to the facility, with an expected census of approximately 40. The project lead will create a codebook which will assign each patient a random identification number to ensure confidentiality during the QI project. The project lead will collect a MAR at that time for each patient, and initial medication counts will be undertaken and placed in the chart audit tool.

Additionally, each week prior to the IDT meeting the project lead will obtain a new census and any newly admitted patients will be added to the codebook and assigned identification numbers, and their MAR's will be collected and added to the chart audit tool. Initial MDS scores for psychotropic medications for the facility will also be logged in the first week.

During weeks two through five, roughly 25% of the facility patient records will be selected for the IDT medication reduction protocol each week and will be discussed by the IDT during that week's IDT meeting. These will be taken in alphabetical order at a rate to keep the number of records to review roughly equal each week. Recommendations then made by the IDT will be collected and collated by the project leader and submitted to the facility medical director for review. Medication changes agreed to by the medical director will be returned to nursing staff for entry into the EMR system. At the conclusion of week 5, all patients in the facility will have undergone at least one IDT medication reduction review.

At the conclusion of week 5, updated copies of the patients' MAR will be collected. These will be collated, and medication data entered into the chart audit tool. A final MDS score for psychotropic medications for the facility will also be obtained and logged. Differences in pre- and post-chart audit scores can then be calculated.

Ethics/Human Subjects Protection

Actions will be taken to ensure the confidentiality of project participants and patient records in the project. The patient records will be given a random assignment of an identification number for the purposes of data collection and to ensure confidentiality in accordance with the expectations of the Health Insurance Portability and Accountability Act (Schaeffer, 2017). Members of the IDT will be aware of the names on patient records which is necessary for them

to make clinical recommendations regarding those specific patients' care. No one outside of the facility personnel will be aware of the patients' identities. IDT group members will also only be identified by initials in any documentation. Patients will be assigned identification numbers in the codebook for the purposes of data collection and synthesis.

This project is designed as a quality improvement project and not a research project. As such, it is not subject to an Institutional Review Board (IRB) approval from the practice site per the facility administrator. Additionally, IRB determination forms were completed and reviewed by the University project team who determined this meets the criteria for a quality improvement project.

Participants in this project are not compensated in any way. There are no risks noted to their participation.

Measures/Plan for Analysis

Once the pre- and post-chart audits are completed, there will be two sets of data relating to medications per patient both by total and by category for the same population. Initial review of the data should indicate whether there was a reduction in medications per patient or medications per category during the project period.

To measure the statistical significance of any change noted between the pre- and post-chart audit values, a paired-samples t-test will be conducted. This test is appropriate as it will measure the change before and after the intervention on the same group of participants (Pallant, 2017). This test will be conducted on the total medications per patient pre- and post-project value. Changes in medications by category will also be tracked. The project aim is that a statistically significant finding will indicate that the intervention positively impacted medication

reduction during the project period and would be an indication to recommend to the facility that the intervention continue as a matter of practice.

Analysis

Data collection was completed after a total of five weekly IDT meetings. A total of 38 patient charts were included in the project. This consisted of charts for all patients who were admitted inpatient status to the facility during the project period, both skilled and long-term care patient categories.

The Medication Audit Tool was completed once for all patients in the project. The IDT discussed the patient in relation to the medications they were taking, and recommendations were made to the prescribing provider. Over the project period a total of twenty-one recommendations were made to the prescribing provider, and of those eighteen were accepted, an acceptance rate of 85.7%. It was noted that as the project progressed each week it became subjectively easier for the IDT to freely discuss and make the recommendations. Comfort with the process improved over time, and the process became easily integrated into the format of the weekly IDT meeting.

Results

Pre and post intervention data collections were completed for total medications and by category as planned. Data was entered into the IBM SPSS software program for statistical analysis. Results were mapped to show total reduction in medication load as the primary endpoint, and it was on this data that the statistical analysis was performed. Reductions in medications by category were also calculated.

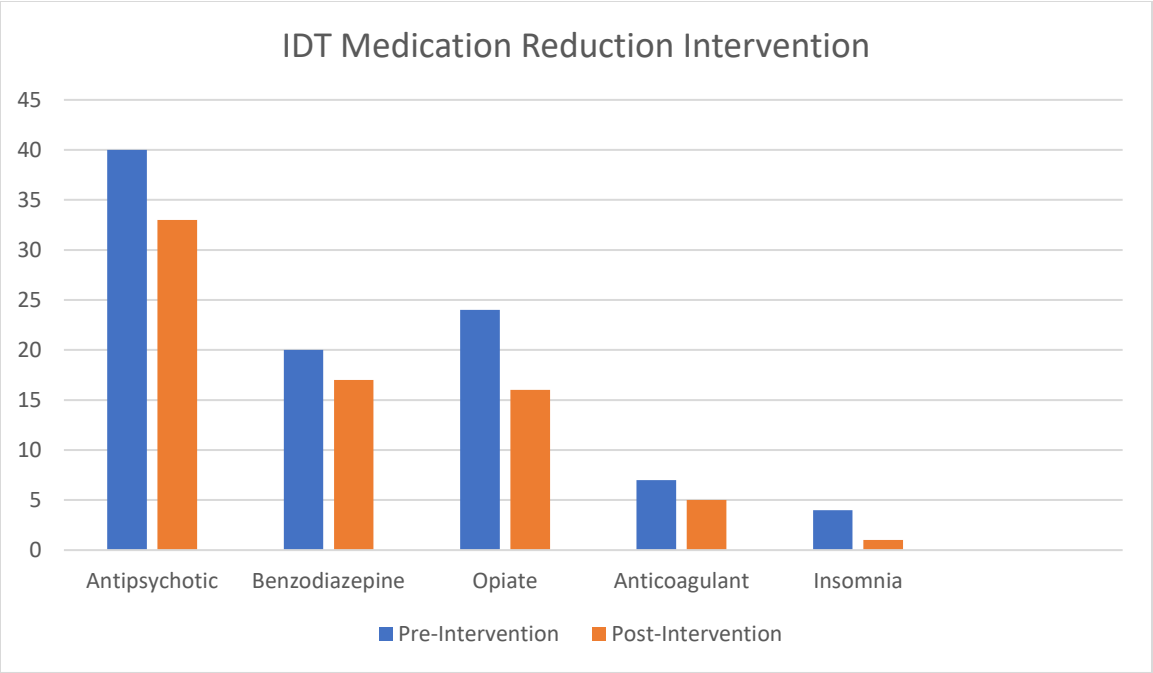
Results showed reductions across the board in all categories that were tracked. In the pre-intervention data collection, a total of 670 medications were noted for the 38 patient charts.

Following the five-week project period, a total of 620 medications were noted for those same 38 patient charts. This was a reduction in mean medications per patient from 17.63 pre-intervention to 16.31 post-intervention. Reductions within the specific targeted categories were reviewed, and results were also favorable:

Table 1

Medication Class	**Total Medications Pre-Intervention**	**Total Medications Post-Intervention**	**Percentage Reduction**
Antipsychotic	40	33	17.5%
Benzodiazepine	20	17	15%
Opiate	24	16	33.3%
Anticoagulant	7	5	28.6%
Insomnia	4	1	75%

Table 2



Statistical Analysis

A paired samples t-test was completed to evaluate the impact of the intervention on the change in medications. There was a statistically significant decrease in the number of medications from pre intervention (M = 17.63, SD = 6.659) to post intervention (M = 16.32, SD = 6.393), t (37) = 4.026, p < .001 (two-tailed). The mean decrease in medications was 1.32 with a 95% confidence interval ranging from .654 to 1.978. The eta squared was calculated to be 0.31, indicating a small to moderate effect size.

While the overall effect size was small to moderate, there was a reduction achieved in each of the targeted categories. Reduction in these medications was the primary goal of the reduction effort, as these are the medications most likely to cause untoward outcomes in the

nursing home population. Additionally, reduction in total medication load has been shown improve outcomes, and therefore the results of the intervention are in line with the stated overall goal of medication reduction/deprescribing.

Discussion and Significance

The primary goal of the project was reduction in medications using an interdisciplinary intervention. The initial medication audit that was performed by the IDT reviewed a total of 38 patients with a combined medication load of 670 individual medications. Over the course of the four-week implementation period, 21 recommendations were generated by the IDT for review. All these recommendations (100%) were for cessation of a medication listed in the Beers Criteria, one of the five categories of medications the project was specifically tracking. The prescriber acceptance rate for these recommendations was 85.7%, for a total of 18 medications discontinued during the project period. This is a substantially high acceptance rate, which indicates that the prescriber likely had high confidence in these recommendations. This type of positive response will support further recommendations, with the IDT feeling that their time is well spent in making these recommendations. Should these recommendations have been poorly received or dismissed altogether by the provider it likely would stall any further efforts toward interprofessional communication regarding medications. An open mind from the prescriber to hearing these recommendations is one key to the success of the intervention (Bell et al., 2017).

Results from the project intervention also showed statistically significant reductions in all the measured medication classes. Looking at the results by class, the most significant reduction by individual medication count was in the opiate class. These recommendations stemmed primarily from the IDT perceptions of the significance of each patient’s pain, and whether

changes in their pain medication regimen could be attained without negatively affecting their quality of life. Opiate use in the elderly is a double-edged sword, with arguments for and against the use of these medications (AGS, 2019; Thompson, 2019). By utilizing an interdisciplinary approach, this expanded the number of professionals treating the patient which resulted in a 33.3% reduction in the total number of opiates being utilized within the facility. Providers can be reticent to reduce pain medications in this population due to perceptions of the patient having increased pain and therefore a poorer quality of life (Christiaens & Dilles, 2019). The interdisciplinary approach to this decision was able to take a broader look at the patient's pain and quality of life issues. This gave the prescriber more comfort that the reduction would not negatively affect the patient, thus generating the significant reduction in this class of medication.

With respect to the project question, it appears that the project did achieve its intended goal. The project question was, "will the implementation of an interdisciplinary polypharmacy reduction protocol reduce the incidence of polypharmacy?" Findings are conclusive that a statistically significant decrease in medications was seen during the project period as a direct result of the IDT intervention. More specifically, those reductions were all made in medications listed on the Beers Criteria.

The project showed correlation with studies that were reviewed during the literature search. Bell et al. (2017) showed significant reductions in medications through the involvement of nurses and pharmacists in the care plan. Schaffler-Schaden et al. (2018), and Lin et al. (2018) had similar findings with medication reductions improved using the interdisciplinary team. This project differed from those in several ways which included: 1) The scope of this project was far narrower being only in one specific building, and; 2) this project involved the therapy team

which was not seen in the other reviews. Regardless, the concept of a broader team approach to medication reduction was carried through and similar results were seen with an overall reduction in total medication load resulting from the intervention.

Interdisciplinary collaboration has much significance to the nursing profession and is a key in successful patient outcomes. This project aligns with national healthcare benchmarks recognized by multiple professionals such as incentives to reduce opiate use (AGS, 2019). Projects such as this demonstrated how collaboration creates statistically significant outcomes. These types of studies need to be replicated to continue ongoing work toward greater professional autonomy and improved patient care.

Limitations

Project limitations were reviewed from the perspective of project design, data methods, and data analysis. One of the initial limitations noted had to do with the number of participants. Initially the project had assumed that the building census would be at or near its 64-bed capacity. The actual number of participants in the DNP project was 38 (n=38), which reflected a lower-than-normal census within the building. This was caused as a direct result of the Covid-19 pandemic which had resulted in mortality within the facility that decreased census. Additionally, the census of the local hospital had been lower than average, and elective surgeries such as joint replacements had been postponed. These factors all contributed to a lower-than-expected number of project participants. As this DNP project was designed to take place in only one facility, there were no other available options to increase the number of participants. Efforts to replicate this project could utilize multiple facilities to increase the number of participants and provide a larger sample size.

With respect to data methods, two issues were appreciated that required some adjustment within the project. One issue was that there was a need for more specificity regarding what class certain medications would fall into. For instance, Trazodone or Mirtazapine could be considered in the antipsychotic category or in the insomnia category depending on their dosing or indication. Additionally, medications such as Depakote are used as mood stabilizers, but do not fall into the antipsychotic category as they are technically seizure medications. These issues were noted and addressed, and these medications were categorized to ensure they were counted consistently in the assigned category.

A second issue related to data collection when a disagreement occurred among the IDT regarding a recommendation. When the team decision was not in agreement it was unclear what recommendation should be sent to the prescriber. In the end one of two things occurred; either the majority would prevail, and the recommendation would go forward, or the recommendation would be tabled if the split could not be reconciled. These issues were infrequent and did not interfere with the progress of the project or its results.

From the data analysis perspective, the statistical test provided clear results of a small to moderate statistically significant effect from the project intervention. Again, this limitation is mostly relating to the number of project participants. A larger pool of participants may have been able to show a more convincing effect size.

Dissemination

Dissemination of the project results will be undertaken by several means. Initially the completed project paper will be submitted to the Doctors of Nursing Practice Doctoral Project Repository, which is an archive that makes the paper available to view. Secondly, the results of

the project will be the basis for a presentation to be submitted for review by the American Medical Directors Association (AMDA) for inclusion at their national conference in early 2022. This is the preeminent organization and conference for the post-acute care industry, and the topic is relevant and timely for presentation. Finally, a synopsis of the project and its results will be submitted to the project leader's employer, Team Health Inc., which employs more than 20,000 clinicians nationwide. The synopsis will be the focus of a weekly educational update that is sent out to all clinical employees.

Sustainability

This project has demonstrated that enhanced interprofessional collaboration can result in significant reductions in polypharmacy within the nursing home population. The intervention was uncomplicated and would take minimal effort to institute in other similar clinical venues. The project is sustainable, and the facility will be continuing the IDT intervention described in this project on an ongoing basis as it was found to be beneficial in multiple ways. Replication of the project intervention in other facilities within the project leaders' practice will be pursued as well.

References

Alkan, A., Yaşar, A., Karcı, E., Köksoy, E., Ürün, M., Şenler, F., Ürün, Y., Tuncay, G., Ergün, H., & Akbulut, H. (2016). Severe drug interactions and potentially inappropriate medication usage in elderly cancer patients. *Supportive Care in Cancer*, *25*(1), 229–236. https://doi.org/10.1007/s00520-016-3409-6

American geriatrics society 2019 updated ags beers criteria® for potentially inappropriate medication use in older adults. (2019). *Journal of the American Geriatrics Society*, *67*(4), 674–694. https://doi.org/10.1111/jgs.15767

Bakker, L., Kemper, P. F., Wagner, C., Delwel, G. O., & de Bruijne, M. C. (2017). A baseline assessment by healthcare professionals of dutch pharmacotherapeutic care for the elderly with polypharmacy. *European Journal of Public Health*, *27*(4), 679–686. https://doi.org/10.1093/eurpub/ckx076

Bell, H. T., Granas, A. G., Enmarker, I., Omli, R., & Steinsbekk, A. (2017). Nurses' and pharmacists' learning experiences from participating in interprofessional medication reviews for elderly in primary health care - a qualitative study. *BMC Family Practice*, *18*(1). https://doi.org/10.1186/s12875-017-0598-0

Bobo, W. V., Grossardt, B. R., Lapid, M. I., Leung, J. G., Stoppel, C., Takahashi, P. Y., Hoel, R. W., Chang, Z., Lachner, C., Chauhan, M., Flowers, L., Brue, S. M., Frye, M. A., St. Sauver, J., Rocca, W. A., & Sutor, B. (2019). Frequency and predictors of the potential overprescribing of antidepressants in elderly residents of a geographically defined u.s. population. *Pharmacology Research & Perspectives*, *7*(1), e00461. https://doi.org/10.1002/prp2.461

Bolmsjö, B., Palagyi, A., Keay, L., Potter, J., & Lindley, R. I. (2016). Factors influencing deprescribing for residents in advanced care facilities: Insights from general practitioners in australia and sweden. *BMC Family Practice*, *17*(1). https://doi.org/10.1186/s12875-016-0551-7

Carroll, C., & Hassanin, A. (2017). Polypharmacy in the elderly—when good drugs lead to bad outcomes. *JAMA Internal Medicine*, *177*(6), 871. https://doi.org/10.1001/jamainternmed.2017.0911

CMS.gov. (2019, October 7). Five star quality rating system. Retrieved August 10, 2020, from www.CMS.gov.

CMS.gov. (2020). QAPI PDSA cycle template.

Dharmarajan, T. S., Choi, H., Hossain, N., Munasinghe, U., Lakhi, F., Lourdusamy, D., Onuoha, S., Murakonda, P., Skokowska-Lebelt, A., Kanagala, M., & Russell, R. O. (2020). Deprescribing as a clinical improvement focus. *Journal of the American Medical Directors Association*, *21*(3), 355–360. https://doi.org/10.1016/j.jamda.2019.08.031

Greiver, M., Dahrouge, S., O'Brien, P., Manca, D., Lussier, M. T., Wang, J., Burge, F., Grandy, M., Singer, A., Twohig, M., Moineddin, R., Kalia, S., Aliarzadeh, B., Ivers, N., Garies, S., Turner, J. P., & Farrell, B. (2019). Improving care for elderly patients living with polypharmacy: Protocol for a pragmatic cluster randomized trial in community-based primary care practices in canada. *Implementation Science*, *14*(1). https://doi.org/10.1186/s13012-019-0904-4

Härstedt, M., Rogmark, C., Sutton, R., Melander, O., & Fedorowski, A. (2016). Polypharmacy and adverse outcomes after hip fracture surgery. *Journal of Orthopaedic Surgery and Research*, *11*(1). https://doi.org/10.1186/s13018-016-0486-7

Leelakanok, N., Holcombe, A. L., Lund, B. C., Gu, X., & Schweizer, M. L. (2017). Association between polypharmacy and death: A systematic review and meta-analysis. *Journal of the American Pharmacists Association*, *57*(6), 729–738.e10. https://doi.org/10.1016/j.japh.2017.06.002

Lin, H.-W., Lin, C.-H., Chang, C.-K., Chou, C.-Y., Yu, I.-W., Lin, C.-C., Li, T.-C., Li, C.-I., & Hsieh, Y.-W. (2018). Economic outcomes of pharmacist-physician medication therapy management for polypharmacy elderly: A prospective, randomized, controlled trial. *Journal of the Formosan Medical Association*, *117*(3), 235–243. https://doi.org/10.1016/j.jfma.2017.04.017

Martin, P., Tamblyn, R., Benedetti, A., Ahmed, S., & Tannenbaum, C. (2018). Effect of a pharmacist-led educational intervention on inappropriate medication prescriptions in older adults. *JAMA*, *320*(18), 1889. https://doi.org/10.1001/jama.2018.16131

Moßhammer, D., Haumann, H., Mörike, K., & Joos, S. (2016). Polypharmacy—an upward trend with unpredictable effects. *Deutsches Aerzteblatt Online*. https://doi.org/10.3238/arztebl.2016.0627

O'Mahony, D., O'Sullivan, D., Byrne, S., O'Connor, M., Ryan, C., & Gallagher, P. (2014). Stopp/start criteria for potentially inappropriate prescribing in older people: Version 2. *Age and Ageing*, *44*(2), 213–218. https://doi.org/10.1093/ageing/afu145

Pallant, J. (2013). *SPSS survival manual: A step by step guide to data analysis using IBM SPSS*. Allen & Unwin.

Paque, K., Elseviers, M., Vander Stichele, R., Pardon, K., Vinkeroye, C., Deliens, L.,

Christiaens, T., & Dilles, T. (2019). Balancing medication use in nursing home residents with life-limiting disease. *European Journal of Clinical Pharmacology*, *75*(7), 969–977. https://doi.org/10.1007/s00228-019-02649-6

Reavy, K. (2016). Inquiry and leadership: Resource for the DNP project. Philadelphia, Pennsylvania: F. A. Davis Company.

Reed, J., Card, A., The problem with plan-do-study-act cycles. *BMJ Quality & Safety*, *25*(147-152)

Reeve, E., Shakib, S., Hendrix, I., Roberts, M. S., & Wiese, M. D. (2014). Review of deprescribing processes and development of an evidence-based, patient-centred deprescribing process. *British Journal of Clinical Pharmacology*, *78*(4), 738–747. https://doi.org/10.1111/bcp.12386

Reeve, E., Shakib, S., Hendrix, I., Roberts, M. S., & Wiese, M. D. (2014). The benefits and harms of deprescribing. *Medical Journal of Australia*, *201*(7), 386–389. https://doi.org/10.5694/mja13.00200

Rochon, P. A. (2020). Drug prescribing for older adults (K. E. Schmader & J. Givens, Eds.). *UpToDate*. Retrieved August 10, 2020, from https://www.uptodate.com/contents/drugprescribing-for-older-adults

Rosenberg, K. (2019). Statins Reduce Major Vascular Events in All Age Groups. AJN American Journal of Nursing, 119(5), 66–67. https://doi.org/10.1097/01.NAJ.0000557920.03118.d7

Saraf, A. A., Petersen, A. W., Simmons, S. F., Schnelle, J. F., Bell, S. P., Kripalani, S., Myers, A. P., Mixon, A. S., Long, E. A., Jacobsen, J., & Vasilevskis, E. E. (2016). Medications associated with geriatric syndromes and their prevalence in older hospitalized adults discharged to skilled nursing facilities. *Journal of Hospital Medicine, 11*(10), 694–700. https://doi.org/10.1002/jhm.2614

Schaeffer, J. (2017). How HIPAA Affects Research Efforts. For the Record (Great Valley Publishing Company, Inc.), 29, 18–21.

Schaffler-Schaden, D., Pitzer, S., Schreier, M., Dellinger, J., Brandauer-Stickler, B., Lainer, M., Flamm, M., & Osterbrink, J. (2018). Improving medication appropriateness in nursing home residents by enhancing interprofessional cooperation: A study protocol. *Journal of Interprofessional Care*, *32*(4), 517–520. https://doi.org/10.1080/13561820.2018.1448372

Scott, I. A., Hilmer, S. N., Reeve, E., Potter, K., Le Couteur, D., Rigby, D., Gnjidic, D., Del Mar, C. B., Roughead, E. E., Page, A., Jansen, J., & Martin, J. H. (2015). Reducing inappropriate polypharmacy. *JAMA Internal Medicine*, *175*(5), 827. https://doi.org/10.1001/jamainternmed.2015.0324

Shi, L., Lee, D.-C., Chung, M., Liang, H., Lock, D., & Sripipatana, A. (2016). Patient-centered medical home recognition and clinical performance in u.s. community health centers. *Health Services Research*, *52*(3), 984–1004. https://doi.org/10.1111/1475-6773.12523

Taylor M. J., McNicholas C., Nicolay C., *et al*, Systematic review of the application of the plan–do–study–act method to improve quality in healthcare, *BMJ Quality & Safety* 2014;**23:**290-298.

Thompson, J. (2019). Deprescribing in palliative care. *Clinical Medicine*, *19*(4), 311–314. https://doi.org/10.7861/clinmedicine.19-4-311

Thompson, W., Lundby, C., Graabaek, T., Nielsen, D. S., Ryg, J., Søndergaard, J., & Pottegård, A. (2018). Tools for deprescribing in frail older persons and those with limited life expectancy: A systematic review. *Journal of the American Geriatrics Society*, *67*(1), 172–180. https://doi.org/10.1111/jgs.15616

Todd, A., & Holmes, H. M. (2015). Recommendations to support deprescribing medications late in life. *International Journal of Clinical Pharmacy*, *37*(5), 678–681.https://doi.org/10.1007/s11096-015-0148-6

Verdoorn, S., Kwint, H.-F., Blom, J. W., Gussekloo, J., & Bouvy, M. L. (2019). Effects of a clinical medication review focused on personal goals, quality of life, and health problems in older persons with polypharmacy: A randomised controlled trial (dreamer-study). *PLOS Medicine*, *16*(5), e1002798. https://doi.org/10.1371/journal.pmed.1002798

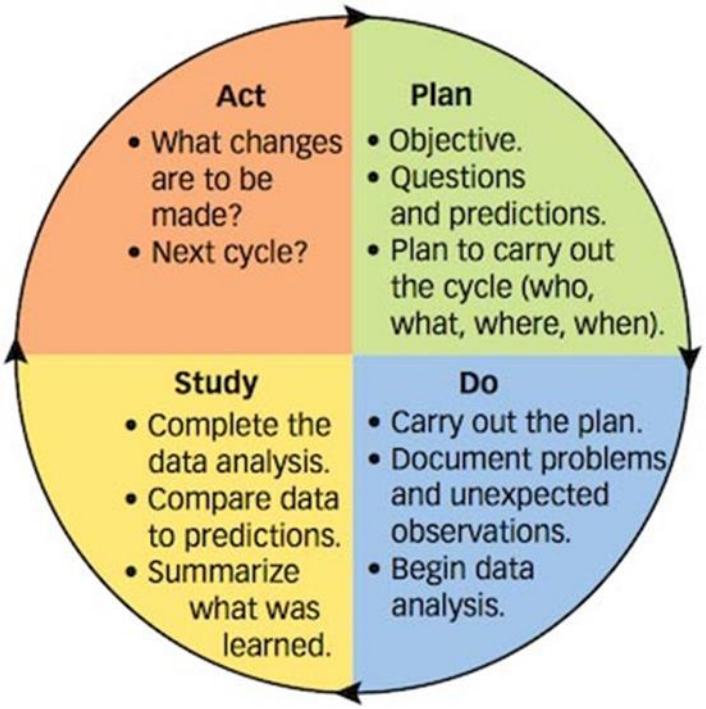
Vrettos, I., Voukelatou, P., Katsoras, A., Theotoka, D., & Kalliakmanis, A. (2017). Diseases linked to polypharmacy in elderly patients. *Current Gerontology and Geriatrics Research*, *2017*, 1–5. https://doi.org/10.1155/2017/4276047

W. Edwards Deming. (2020). Excellence Through Quality. ASQ. https://asq.org/about-asq/honorary-members/deming

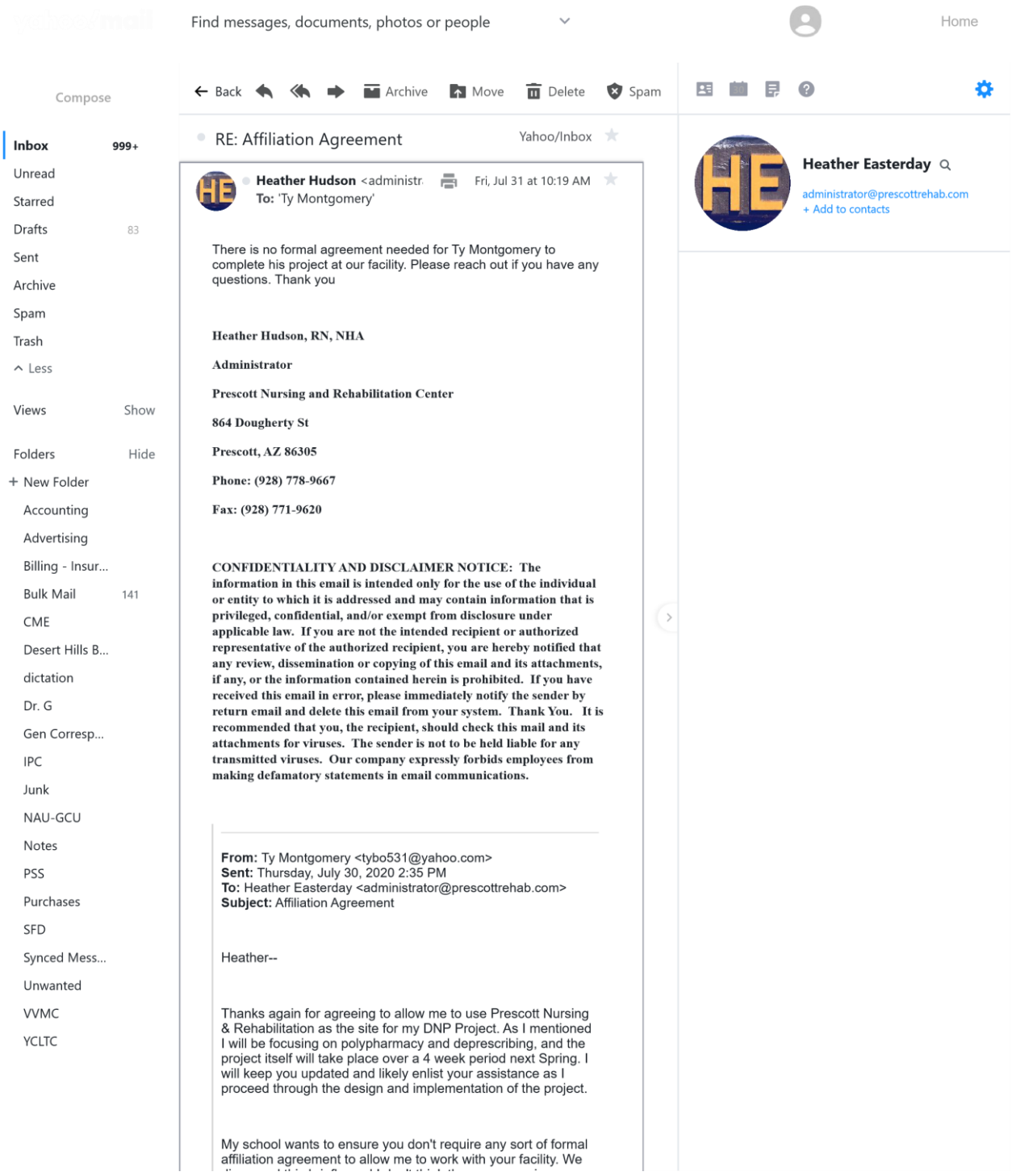
Walter A. Shewhart. (2020). Excellence Through Quality. ASQ. https://asq.org/about-asq/honorary-members/shewhart

Appendix A

Plan Do Study Act Cycle



Appendix B


Find messages, documents, photos or people
Home
Compose
Inbox 999+
Unread
Starred
Drafts 83
Sent
Archive
Spam
Trash
Less
Views Show
Folders Hide
New Folder
Accounting
Advertising
Billing - Insur...
Bulk Mail 141
CME
Desert Hills B...
dictation
Dr. G
Gen Corresp...
IPC
Junk
NAU-GCU
Notes
PSS
Purchases
SFD
Synced Mess...
Unwanted
VVMC
YCLTC
Back
Archive
Move
Delete
Spam
RE: Affiliation Agreement
Yahoo/Inbox
Heather Hudson <administr
Fri, Jul 31 at 10:19 AM
To: 'Ty Montgomery'
There is no formal agreement needed for Ty Montgomery to complete his project at our facility. Please reach out if you have any questions. Thank you
Heather Hudson, RN, NHA
Administrator
Prescott Nursing and Rehabilitation Center
864 Dougherty St
Prescott, AZ 86305
Phone: (928) 778-9667
Fax: (928) 771-9620
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From: Ty Montgomery <tybo531@yahoo.com>
Sent: Thursday, July 30, 2020 2:35 PM
To: Heather Easterday <administrator@prescottrehab.com>
Subject: Affiliation Agreement
Heather--
Thanks again for agreeing to allow me to use Prescott Nursing & Rehabilitation as the site for my DNP Project. As I mentioned I will be focusing on polypharmacy and deprescribing, and the project itself will take place over a 4 week period next Spring. I will keep you updated and likely enlist your assistance as I proceed through the design and implementation of the project.
My school wants to ensure you don't require any sort of formal affiliation agreement to allow me to work with your facility. We
Heather Easterday
administrator@prescottrehab.com
+ Add to contacts

Appendix C

IDT Medication Reduction Tool

During the weekly IDT meeting, please review each resident as assigned with relation to the following medication categories and clinical questions. As a team, please make recommendations as to any changes you feel would be appropriate in the patient's medication regimen.

Psychotropics

Is the patient on any psychotropic medications? Y N Drug(s): _____

If Yes, does the team feel the patient is experiencing any uncontrolled psychiatric symptoms? Y N

If not, would the team be in favor of a reduction or cessation of the current medication(s)? Y N

Benzodiazepines

Is the patient on any benzodiazepine medications? Y N Drug(s): _____

If Yes, does the team feel the patient is experiencing any uncontrolled symptoms? Y N

If not, would the team be in favor of a reduction or cessation of the current medication(s)? Y N

Opiates

Is the patient on any opiate medications? Y N Drug(s): _____

If Yes, does the team feel the patient is experiencing any uncontrolled symptoms? Y N

If not, would the team be in favor of a reduction or cessation of the current medication(s)? Y N

Anticoagulants

Is the patient on any anticoagulant medications? Y N Drug(s): _____

If Yes, does the team feel the patient is at a higher than average fall risk? Y N

If so, would the team be in favor of a cessation of the current medication(s) to reduce risk? Y N

Insomnia

Is the patient on any insomnia medications? Y N Drug(s): _____

If Yes, does the team feel the patient is experiencing any symptoms of poor sleep? Y N

If not, would the team be in favor of a reduction or cessation of the current medication(s)? Y N

Other

Is the patient on any other medications that are concerning to the IDT? Y N

If yes, please list drug(s): _____

What are your concerns/recommendations regarding this drug(s)? _____

Appendix D

IDT Medication Reduction Project and Protocol

Next week will begin the project period for the Medication Reduction Project. Each week for the next 4 weeks during the IDT meeting you will review 25% of the patients in the facility using the attached IDT Medication Reduction Tool. The list of patients, the tools, and the patient's MARs will be provided to the team at the beginning of each meeting. After 4 weeks all patients in the facility will have been reviewed. During the meeting, please use the following format to review and complete the tool. As a team:

1. State the name of the patient to be reviewed and write it at the top of the tool.

2. Review the patients MAR to answer the first question in each drug category. If the answer is No, move on to the next drug category.

3. If the answer is Yes, move on to the second question and discuss the patient's presentation among the team.

4. If after discussion the answer is Yes, move on to the third question and as a team make a recommendation regarding reduction or cessation of the drug in question.

5. After completing the tool it will be collected by the project administrator.

--If during the project period there is a patient that the team would like to review again for further recommendations, that will be allowed.

--If during the project period there is a patient that has not yet been reviewed however the team feels there is a clinical issue for which urgent review is warranted, that will be allowed.

Remember, this is a project about collaboration. While the team may not have prescriptive privilege to change medications, the team has extensive medical, social, psychological, and general knowledge regarding the patient that the prescriber may not have given the significantly greater amount of time the team members spend in close contact with the patients. Our goal is to harness that knowledge and translate it into data that can be used by the provider to make the most appropriate medication recommendations for each individual patient. Thank you again for your agreement to participate in this project.

Appendix E

Chart Audit Tool

Preliminary Audit

Patient ID#	Total Meds	Psychotropics	Benzos	Opiates	Anticoags	Insomnia
Totals	**X**	**X**	**X**	**X**	**X**	**X**

Post Intervention Audit

Patient ID#	Total Meds	Psychotropics	Benzos	Opiates	Anticoags	Insomnia
Totals	**X**	**X**	**X**	**X**	**X**	**X**

Raw Data

Pt ID	Total meds pre	Total meds post	Psy pre	Psy post	Benzo pre	Benzo post	Opiate pre	Opiate post	Anticoag pre	Anticoag post	Insom pre	Insom post
1	24	23		1			1	1				
2	13	9	1									
3	27	24			1	1	2	1				
4	18	16	3	2								
5	8	7					1					
6	28	19	1				1					
7	21	17	3	3			1	1				
8	8	7	1	1			1					
9	14	14					1	1				
10	16	13	2	2	1	1						
11	10	11	1	2	3	2					1	
12	16	15	1						1	1		
13	21	21	1	1			1					
14	17	17	1	1			1	1	1			
15	16	16					1	1			1	
16	21	19					1	1				
17	6	6										
18	11	12	1	1	1	1						
19	30	29	2	2	1	1	2	1				
20	15	15	2	2	2	2	1	1				
21	25	22	2	1			1	1	1	1		
22	30	31	3	3	1	1	1	1	1	1		
23	24	23	1	1								
24	19	14	2	2	3	2						
25	15	15										
26	14	13	3	2								
27	34	34					1	1				
28	19	17	1				1					
29	20	20	1	1	3	2	1	1	1	1		
30	15	14	2	2	1	1					1	
31	19	18	3	2	1	1						
32	14	13					1					
33	12	10	1				1		1			
34	11	11	1	1								
35	8	9						1				
36	19	17			1	1						
37	17	18					1	1	1	1	1	1
38	15	11			1	1	1	1				
Totals	670	620	40	33	20	17	24	16	7	5	4	1
Difference		50		7		3		8		2		3
		7.46%		17.50%		15.00%		33.33%		28.57%		75.00%

Statsistical Modeling

```
T-TEST PAIRS=Totalmedspre WITH Totalmedspost (PAIRED)
  /ES DISPLAY(TRUE) STANDARDIZER(SD)
  /CRITERIA=CI(.9500)
  /MISSING=ANALYSIS.
```

T-Test

Notes

Output Created		10-APR-2021 15:53:11
Comments		
Input	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	41
Missing Value Handling	Definition of Missing	User defined missing values are treated as missing.
	Cases Used	Statistics for each analysis are based on the cases with no missing or out-of-range data for any variable in the analysis.
Syntax		T-TEST PAIRS=Totalmedspre WITH Totalmedspost (PAIRED) /ES DISPLAY(TRUE) STANDARDIZER(SD) /CRITERIA=CI(.9500) /MISSING=ANALYSIS.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.00

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Total meds pre	17.63	38	6.659	1.080
	Total meds post	16.32	38	6.393	1.037

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Total meds pre & Total meds post	38	.953	.000

Paired Samples Test

		Paired Differences			
					95% Confidence Interval of the Difference
		Mean	Std. Deviation	Std. Error Mean	Lower
Pair 1	Total meds pre - Total meds post	1.316	2.015	.327	.654

Paired Samples Test

		Paired Differences			
		95% Confidence Interval of the Difference			
		Upper	t	df	Sig. (2-tailed)
Pair 1	Total meds pre - Total meds post	1.978	4.026	37	.000

Paired Samples Effect Sizes

					95% Confidence Interval
			Standardizer[a]	Point Estimate	Lower
Pair 1	Total meds pre - Total meds post	Cohen's d	2.015	.653	.299
		Hedges' correction	2.036	.646	.296

Paired Samples Effect Sizes

			95% Confidence Interval[a] Upper
Pair 1	Total meds pre - Total meds post	Cohen's d	1.000
		Hedges' correction	.990

a. The denominator used in estimating the effect sizes.

Cohen's d uses the sample standard deviation of the mean difference.

Hedges' correction uses the sample standard deviation of the mean difference, plus a correction factor.