Implementing a Mobile Text Messaging Reminder System to Increase Annual Wellness Visits in a Primary Care Clinic

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Table of Contents

Abstract

Problem: Although preventative healthcare is recommended to help avert and manage chronic disease there was not an established reminder system in place to prompt adult patients at a primary care clinic to schedule and complete their annual wellness visits.

Background: Keeping well people well, reducing health risks, and managing chronic disease are key priorities in maintaining a healthy population. The purpose of this DNP quality improvement (QI) project was to increase the number of adult annual wellness visits with the goal of providing age-specific preventative healthcare recommendations as supported by Healthcare Effectiveness Data and Information Set (HEDIS) metrics and the United States Preventative Services Task Force (USPSTF) recommendations.

Methods: A quantitative methodology was used for this QI project. The primary care clinic staff and patients made up the population. Data was collected pre-implementation as well as post-implementation and a Chi-Square Test for Independence was used to determine if there was a statistical association between pre- and post-intervention time periods.

Intervention: With the use of the Plan-Do-Study-Act (PDSA) framework, this project established a mobile text messaging reminder system to prompt established patients at a primary care clinic to schedule and complete their annual wellness visits. A chart auditing tool was used to collect the data on the patients who received a text message reminder and then those who scheduled and completed their annual wellness visits within a 5-week period. This data was then analyzed to determine if the number of adult patients who scheduled and completed annual wellness visits increased by at least 5% during the implementation period as compared to five weeks prior and 1 year prior.

Results: Of the 1,320 text messages sent out, 2.7% scheduled an annual wellness visit while 53% were able to schedule and complete an annual wellness visit within the implementation period. Females made up 79% and 42% described their race/ethnicity as white non-Hispanic. The age range of the patients ranged from 24 to 64 with the average age being 40 years old. This project

demonstrated a 325% increase in the number of patients who scheduled and completed annual wellness visits as compared to one year prior. Compared to the five weeks before the project was implemented, there was an 18.6% decrease.

Conclusions: If a primary health clinic can learn to establish a healthcare model that focuses on a culture of wellness, the providers can help their patients learn to increase their overall quality of life and reduce chronic disease, not to mention reduce healthcare spending. There is an essential need to establish a healthcare system that focuses on wellness where individuals value their health and seek to optimize their well-being by taking an active role in preventative care services, such as annual wellness visits.

Keywords: Annual Wellness Visits, Preventative Care, Primary Care, Text Messages in Primary Care, Culture of Wellness, Population Health, USPSTF Recommendation, HEDIS metrics, Chronic Disease Prevention.

Implementing a Mobile Text Messaging Reminder System to Increase Annual Wellness Visits in a Primary Care Clinic

In the United States (U.S.), nearly 18% of the gross domestic product (GDP) is devoted to health care and is projected to reach 20% by 2025 (Centers for Medicare & Medicaid Services [CMS], 2022). Despite this large amount of funds devoted to healthcare costs, the United States compared to similarly developed countries (such as Canada, Australia, and the United Kingdom), continues to perform lower on healthcare performance dimensions that include quality, access, efficiency, equity, and healthy lives (Schneider et al., 2017). Even though there is a high level of spending on healthcare costs the burden of disease in the U.S. population continues to increase with roughly 133 million Americans (45% of the U.S. population) suffering from at least one chronic condition (Raghupathi & Raghupathi, 2018). The unhealthy state of the American population is a problem that has been in existence for many years and though efforts have been made to help mitigate this problem, such as the passing of the Affordable Care Act (ACA), there are still an estimated 28.5 million Americans that were uninsured as of 2017 and 33% of adults went without recommended care such as preventative health screenings (Osborn et al., 2016).

Traditionally, the United States healthcare system has focused on a *sick care* approach to population health. Nash et al. (2021) emphasize that true population health can be achieved only by placing an increased emphasis on health promotion and disease prevention. Only 8% of adults, 35 years of age and older, reported receiving all the recommended preventative healthcare services such as annual wellness exams and screenings, in 2015 (Borsky et al., 2018). Nevada specifically is ranked one of the lowest of the 50 states for individuals participating in health-promoting activities such as having a designated healthcare provider, wellness visits, immunizations, and good nutrition (United Health Foundations, 2022).

The need to establish a healthcare system that focuses on a culture of wellness where individuals value their health and seek to optimize their well-being by taking an active role in preventative care services, such as wellness visits, is a growing essential need in the U.S. (Nash et

al., 2021). The problem of interest for this Doctor of Nursing Practice (DNP) project was that there was not an established reminder system in place to prompt adults at a primary care clinic located in Las Vegas, Nevada to schedule and complete their annual wellness visit. This project attempted to address this issue by researching, planning, implementing, and evaluating the use of a mobile text messaging reminder system to increase patient scheduling and completion of wellness visits.

Background and Significance

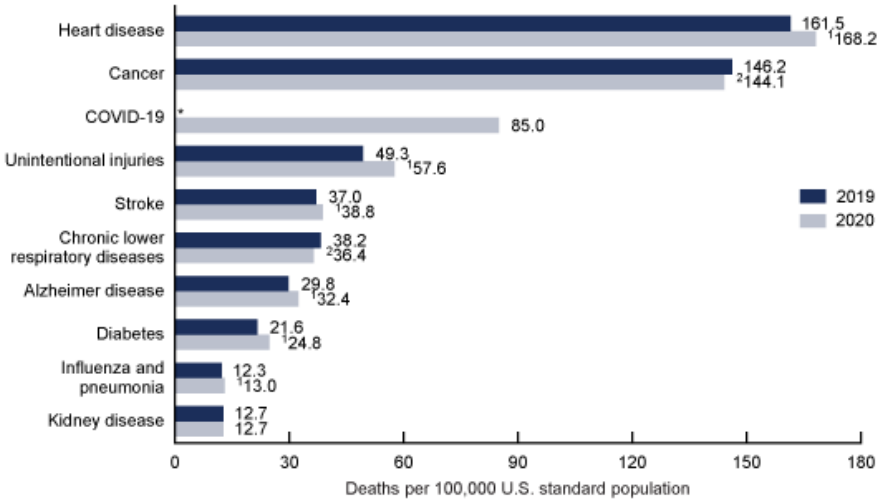
Keeping well people well, reducing health risks, and management of chronic disease are key priorities in maintaining a healthy population (Nash et al., 2021). In an ideal healthcare system, patients would routinely schedule wellness visits, and "the providers would deliver all evidence-based preventative care, from biometric health screenings to health risk assessments and immunizations" (Nash et al., 2021, p. 9). Once unhealthy medical conditions or risky health behaviors (such as smoking, excessive alcohol consumption, and inactive lifestyle) have been identified, addressing lifestyle changes would be a priority to help prevent the development of chronic disease. Quality of life can be improved as well as reducing disabilities and healthcare spending if providers and the American population learn to prevent and manage chronic medical conditions (Raghupathi & Raghupathi, 2018).

Chronic Disease

For the American population to understand how to prevent and manage chronic disease, they must first understand what defines a chronic disease and the significance. Chronic diseases are defined broadly as conditions lasting one year or more that require ongoing medical surveillance or limit activities of daily living or both (National Center for Chronic Disease Prevention and Health Promotion [NCCDPHP], 2022). Chronic diseases (i.e., heart disease, cancer, hypertension, diabetes, stroke, respiratory diseases, arthritis, and obesity) are the leading causes of death and disability with roughly 133 million Americans suffering from at least one chronic condition and 25% of adults diagnosed with more than one (NCCDPHP, 2022;

Raghupathi & Raghupathi, 2018). The National Center for Health Statistics (NCHS) reports of the ten leading causes of death among U.S. residents in 2020, seven were chronic diseases, two were caused by infectious diseases (COVID-19, influenza, and pneumonia), and only one was behavioral (unintentional injuries). For the past 40 years, heart disease and cancer have remained the top two causes of death in the United States (NCHS, 2020). (Figure 1)

Figure 1: Age-adjusted death rates for the 10 leading causes of death in 2020: United States, 2019 and 2020



SOURCE: National Center for Health Statistics, National Vital Statistics System, Mortality.

Chronic disease and the risk factors that may contribute to chronic disease also play a major role in increased healthcare spending. The NCCDPHP (2022) states that chronic diseases are the leading contributors to the nation's $4.1 trillion in annual healthcare costs and many of the chronic diseases are caused by risk behaviors such as tobacco use (and secondhand smoke), poor nutrition, physical inactivity, and excessive alcohol use. Another risk factor for chronic disease in America is the aging population with 20% of adults projected to be 65 years old or older by the year 2030 (United States Census, 2018). Age does not necessarily indicate that one will be diagnosed with a chronic disease, however, age increases the risk of acquiring a chronic disease if lifestyle behaviors are not closely monitored by healthcare providers and early interventions to change behavior are not encouraged. The CMS (2022) reports that roughly two-thirds of Medicare recipients have two or more chronic conditions and 16% dealt with six or more with hypertension, ischemic heart disease, and diabetes as the top three.

With the increasing prevalence of chronic disease among adults in the U.S., which puts a strain on the healthcare system, there is a clear need for more surveillance in the form of annual wellness visits and health screenings. Chronic diseases can be prevented or delayed if the American healthcare system changes from a *sick care* approach to a culture of prevention with frequent monitoring and early intervention. The earlier risk behaviors can be identified, the sooner these behaviors can be changed and the progression to chronic disease can be prevented.

Preventative Strategies

"Health care visits are an opportunity for individuals to receive preventive services and counseling on topics such as diet and exercise. These visits also can help them to address acute issues or manage chronic conditions" (National Committee of Quality Assurance [NCQA], 2022). There are three different levels of disease prevention strategies within the United States healthcare system which are primary, secondary, and tertiary.

Evidence suggests that focusing on primary prevention strategies such as healthy environments, healthy cultures, health promotion, and wellness activities will improve the overall health of Americans and decrease the costs associated with chronic disease (Nash et al., 2021). Three lifestyle modifications have been identified as the most effective primary preventative strategies to reduce the prevalence of chronic conditions – eliminating and reducing tobacco use, eating healthy food with portion control, and increasing regular physical activity (Nash et al., 2021). Essentially, in primary prevention, the disease is prevented by eliminating the cause (Fletcher, 2020).

Secondary preventative strategies promote early diagnosis of a disease or condition such as cancer screenings, checking blood pressure or cholesterol monitoring, and the progression of the disease is stopped (Fletcher, 2020). In secondary prevention, the strategy is to reduce barriers to early detection, early treatment, and completion of therapy which has been shown to improve patient outcomes and reduce the progression of disease (Nash et al., 2021). "For example, detecting an early-stage breast cancer during mammography and initiating treatment may prevent

the need for mastectomy or indeed be lifesaving" (Nash et al., 2021, p. 15).

In tertiary preventative strategies, clinical endeavors focus on minimizing disease complications or comorbidities after a disease is already diagnosed (Fletcher, 2020). Evidence-based treatments and continuity of care by use of such models as the Chronic Care Model, ensure that quality care is utilized to maximize the quality of life (Nash et al., 2021).

National Healthcare Guidelines

A number of national healthcare regulations, guidelines, or recommendations have been developed to promote preventative healthcare services and healthy lifestyle behaviors. One such notable national regulation was the passing of the Patient Protection and Affordable Care Act (ACA) in 2010. The ACA aimed at improving the health of the American population by increasing access to affordable healthcare (Nash et al., 2021). The United States has a long history of supporting a healthcare system that rewards both consumers and providers for healthcare that is sought only in the event of an emergency or acute illness, the *sick care* approach (Nash et al., 2021). Due to the payment policies that were in place, co-payments and deductibles were attached to all healthcare services, including preventative wellness visits and screenings. These payment policies often created a financial burden on many Americans who participated in health promotion and disease prevention activities resulting in avoiding such activities altogether (CMS, 2010). The ACA attempted to decrease the financial burden put on Americans by requiring health insurance companies and the Centers for Medicare and Medicaid Services (CMS) to cover preventative healthcare services with no co-payments or deductibles in hopes of increasing access to affordable healthcare (CMS, 2010).

The ACA also provided specific guidelines for preventative health services that should be offered during an annual wellness visit based on the U.S. Preventative Services Task Force (USPSTF) recommendations (USPSTF, 2022). These recommendations, which are derived from evidence-based practice, are developed to guide providers as to the advised medical screenings, behavior risk assessments, and counseling that should be offered as preventative health services

during an annual wellness visit. The recommended health screenings, risk assessments, and counseling services are determined by sex, age, gender, pregnancy status, tobacco use, sexual activity, and specific health categories. The USPSTF website (2022) is very user-friendly for providers and offers a grading system where screenings, behavior risk assessments, and counseling services are assigned a score from A-D and I. An A, B, or C score is a recommended standard of care and there is high certainty that the net benefit is substantial, moderate, or small. Services that are assigned a D score are no longer advised as the evidence shows that the harms outweigh the benefits. When an I score is assigned to the service, this indicates there is lacking or conflicting evidence to determine the total benefits versus harms (USPSTF, 2022).

Another regulatory agency that establishes national healthcare standards and is one of the accreditation organizations for healthcare facilities, is the National Committee for Quality Assurance (NCQA). Each year the NCQA creates healthcare standard care models that help to measure the performance, effectiveness, and patient outcomes of individual physicians, health plans, and medical groups (Nash et al., 2021). Healthcare Effectiveness Data and Information Set (HEDIS) is a tool a healthcare facility may use to seek accreditation and measure performance (Nash et al., 2021). HEDIS creates evidence-based standard care measures to help drive healthcare quality, in which some of the measures specifically focus on prevention efforts (NCQA, 2022). An example of one of these measures that are of importance for this project would be the *Adults' Access to Preventative/Ambulatory Health Services,* which assesses whether adult health plan members had a preventive or ambulatory visit to their primary care provider and the benefits these preventative visits provide (NCQA, 2022).

As an incentive for providing patients with quality care, many healthcare payers use NCAQ HEDIS quality measures data to monetarily reward eligible providers. One such example would be the Molina Healthcare of Nevada Primary Care Provider Pay-For-Quality Bonus Program (PCP P4Q Program). This program is a quality bonus payment program that was designed to recognize eligible providers who demonstrate the best quality of care for Health Plan

Medicaid PCP P4Q Program Members (Molina Healthcare, 2023). Patients who are members of the Molina PCP P4Q Program benefit by receiving more proactive and regular healthcare exams to ensure proper preventative assessments and care management (Molina Healthcare, 2023). Each primary care provider has a quality performance report and is appropriately rewarded with monetary bonuses based on every quality measure and benchmark that is met as listed in Table 1 (Appendix A). These monetary bonuses can amount to a great deal of revenue for a primary care clinic and can be a valuable incentive for quality preventative care practices.

Wellness Visits

Primary prevention strategies such as wellness visits and healthcare screenings have been proven to enhance patient outcomes which allow Americans to live healthy happy lives, but yet there are millions of Americans who do not take advantage of preventative healthcare services with 33% of U.S. adults that went without recommended care (Levine et al., 2019) (Osborn et al., 2016). Nash et al. (2021) stated that "the ultimate goal for healthcare providers, public health professionals, employers, payers, and policymakers is the same: healthy people comprising healthy populations that create productive workforces and thriving communities" (Nash et al., 2021, p. 4). The purpose of any primary care provider is to deliver quality healthcare which should focus on promoting wellness, health maintenance, and prevention of disease. The most effective approach to chronic disease prevention is primary prevention strategies and health promotion which is the act of enabling patients to increase control over their own health (World Health Organization, 1986). During an annual wellness visit, the provider can incorporate several forms of health prevention strategies in the way of advised medical screenings, behavior risk assessments, and counseling. But, for patients to benefit from such health promotion services offered by their healthcare provider, they must first take it upon themselves to schedule and complete an annual wellness visit.

Project Question

The project question: Will the use of a patient appointment reminder/recall system via mobile text messaging increase the percentage of patients scheduling and completing annual wellness visits in a primary care clinic? The inquiry was formulated upon the population, intervention, comparison, and outcome method (PICO).

The (P) population of interest was adult patients seen in a primary care clinic.

The (I) intervention was the implementation of a mobile text messaging annual wellness reminder/recall system for scheduling and completing annual wellness visits.

The (C) comparison was the implementation of a mobile text messaging reminder system for annual wellness visits versus the current practice of not having a reminder text messaging system.

The (O) outcome was to see at least a 5% increase in the number of adult patients who schedule and complete annual wellness visits in a primary care clinic during the implementation period.

Search Methods

To review the evidence to support this DNP project a search of current literature was conducted utilizing databases. The following search terms were used in various combinations to conduct this literature review: *wellness, preventative, reminders, recalls, text, messaging, appointments, primary care*. The databases searched included CINHAL, Medline, ProQuest, and PubMed. During the initial search, the total yield was 370 articles that included the keywords mentioned above. After applying inclusion criteria such as peer-reviewed, written in the English language, and the period from 2017-2023, the search was narrowed to 72 studies. The search was then further limited to 23 articles, by applying inclusion criteria such as full-text and studies only conducted in the United States or similarly developed countries. The studies that were chosen to be included in this DNP project were full-text, peer-reviewed articles that directly discussed text messaging reminders/recalls used in primary care settings in the United States or similarly developed countries within the last five years and were written in the English language. The exclusion criteria were studies greater than 5 years old, had no full-text available, were not peer-

reviewed, involved underdeveloped countries, were not written in the English language, and did not directly discuss text messaging reminders used in a primary care setting.

Review of Study Methods

After reviewing the methodologies of the current studies selected to be included in this DNP project, the themes appear to be relevant and valid in addressing the examined healthcare problem and in supporting the proposed intervention of implementing a mobile text messaging reminder/recall system in the primary care setting to increase annual wellness visits. The methodologies of the literature that were reviewed and will be discussed further in this project include observational studies, randomized control trials, randomized quality improvement projects, descriptive analysis studies, randomized control studies, feasibility studies, event study analysis, meta-analysis, and mega studies.

Review Synthesis

The overarching message of the literature review conducted for this DNP project is that the use of text messaging and reminder/recall systems can be utilized in primary care settings to address the gap in preventative healthcare services, such as annual wellness visits, within the United States. According to the Agency for Healthcare Research and Quality (AHRQ), the use of reminder systems in primary care settings is set up to notify patients of their already scheduled appointments and a recall system contacts patients to encourage them to schedule a new appointment (AHRQ, 2020). Both the use of reminder and recall text messaging systems have been shown to increase preventative care visits and reduce patient appointment no-show rates (AHRQ, 2020). Reminder and recall systems are known to have a variety of ways they can be delivered to patients including email messages to personal email accounts, messages set through a specific patient portal, mobile text messaging, direct phone calls to landlines or mobile phones, or through the United States Postal Service in the form of postcards or letters (AHRQ, 2020).

During the literature review, a few themes emerged within the chosen articles related to mobile text messaging and reminder/recall systems usage in healthcare. These themes included

the healthcare trend of using text messaging; mobile text messaging reminders/recalls to improve the scheduling of health maintenance visits; and text messaging reminders/recalls to decrease *no-shows* and improve the completion of scheduled appointments. In all the studies reviewed for this DNP project, the stakeholders involved were patients or caregivers (including parents and guardians), medical assistants, and healthcare providers.

Healthcare Trends: Text Messaging in Healthcare

Text messaging today has become widely used across all age groups and has exceeded telephone voice calls in those under the age of 50, according to a 2020 meta-analysis published in the *British Medical Journal* (Martinengo et al., 2020). This study reported that the general public views text messaging as more convenient, less intrusive, less costly, and more time efficient than telephone voice calls (Martinengo et al., 2020). It was also reported that across all age groups, 69% of consumers want businesses such as retail, banking, hospitality, education, travel, and healthcare, to be reachable by text (Martinengo et al., 2020). In this study, healthcare patients felt mobile text messaging should not replace face-to-face encounters but were seen as a useful addition to the existing ways of accessing healthcare and a practical way to build relationships with their providers (Martinengo et al., 2020). Meanwhile, doctors, nurse practitioners, social workers, and numerous other healthcare professionals have also been reported using mobile text messaging to engage in interprofessional communication throughout many different healthcare settings (Martinengo et al., 2020).

Text messaging in healthcare has also been shown to have benefits regarding delivering accurate educational materials to information-seeking patients or loved ones. In a 2020 journal article entitled “Update on the Evaluation of Text Messaging as an Educational Method to Improve Health Care Utilization”, Ladley et al. (2020), found that text messaging was a low-cost, effective tool for promoting healthy behaviors and is particularly useful to parents and guardians who express having difficultly locating reliable information regarding common pediatric health concerns. Of the 231 caregivers (including parents, legal guardians, and foster parents) who

participated in this randomized control trial, those who received educational information via text messaging (4 texts/week for 6 months) were shown to have fewer visits to the emergency department in their child's first year of life than those who received written health education (Ladley et al., 2020). This article also found that patients report that they turn to text interactions not only to access providers but also to self-manage health concerns and meet health-related needs not met in traditional healthcare settings (Ladley et al., 2020). The authors of this study concluded that not only is text messaging a cost-effective way to reduce message ambiguity when sent directly from a provider, but caregivers prefer text messaging as a means of receiving health-related information over other forms of provider communication (Ladley et al., 2020).

Mobile Messaging to Improve the Scheduling of Health Maintenance Visits

The increasingly widespread ownership of cell phones across the American population has created a unique opportunity for technology-based health promotion interventions, such as mobile text messaging, amongst populations that may not have access to computer-based platforms (Ntiri et al., 2022). In a descriptive analysis study published in the *Health Informatics Journal*, Ntiri et al. (2022) reported that in 2021, according to the data gathered by the Pew Research Center, 97% of American adults owned a cell phone including those with a household income less than $30,000. In this study, the authors aimed to assess the feasibility and acceptability of mobile text messaging as a way to promote the scheduling of mammography screenings of low-income African American women within a primary care setting (Ntiri et al., 2022). The results of this study found that the participants believed there was a need for reminders to help schedule mammography screenings and text messaging was the top preferred communication method to meet that need (Ntiri et al., 2022). This study also identified text messaging as a largely available communication modality that can be used in primary care settings as a potential interventional strategy to improve breast cancer screening rates amongst low-income African American women (Ntiri et al., 2022).

In another study conducted by Milkman et al. (2021) and published in the *Journal of the Proceedings of the National Academy of Sciences*, a group of behavioral scientists in the Northeast United States conducted a large field experiment and mega study, testing whether mobile text messaging reminders would boost flu vaccination rates. The participants of this study were chosen based on eligibility criteria that included "1) they had a cell phone number recorded in their electronic health record; 2) they had not opted out of receiving SMS appointment reminders from their healthcare provider or asked not to be contacted for research purposes; 3) they did not have a documented allergy or adverse reaction to the flu vaccine; and 4) they had not yet received a flu shot in 2020 according to their electronic health record" (Milkman et al., 2021, p. 2). The results of this study showed overall that text messages sent to participants reminding them to get the flu shot at their next scheduled primary care appointment boosted vaccination rates by an estimated 11% and with no added cost to primary care clinics (Milkman et al., 2021).

Mobile Messaging to Improve *No-Show* Rates of Scheduled Appointments

Missed clinic appointments, also referred to as *no-shows*, have been indicated to result in a waste of healthcare resources and a decrease in provider availability which could ultimately result in longer waiting room times and poor healthcare outcomes (Ulloa-Perez et al., 2022). It was reported that in the U.S., *no-shows* make up between 12%-50% of scheduled appointments resulting in an annual loss of more than $150 billion (Boone et al., 2022). Evidence has shown that health system interventions such as text messages reduce *no-show* rates for primary care visits (Ulloa-Perez et al., 2022). In an event study analysis conducted by Boone et al. (2022), text messaging appointment reminders were used to reduce the number of *no-shows* as well as to identify those patients who indicated they would like to cancel their appointment in time to transfer their slot to another patient, reducing wasted time. This study showed that text messaging interventions can be used to improve clinic efficiency allowing providers to care for more patients in the same amount of time with the same number of resources (Boone et al., 2022).

Additionally, text messaging appointment reminders are often integrated into a wider scheduling system, such as an electronic health record (EHR) system, which is software-driven and automatically sends out messages without the need for additional human support (Boone et al., 2022). Such systems often also allow for patient appointment confirmation or cancelation built right into the actual text message, so providers know ahead of time if a patient cancels thus reducing any dead time during the clinic day (Boone et al., 2022). Evidence shows that compared to other traditional methods, such as mailed reminders or traditional phone calls, text messaging appointment reminders sent automatically are generally less costly, less labor-intensive, and more easily managed (Boone et al., 2022).

National Guidelines and Text Messaging Reminder/Recall Systems

Several national guidelines refer to reminder/recall systems as a means to increase patient participation in preventative health maintenance services, such as annual wellness visits, and to decrease *no-shows*. The AHRQ (2020) stated that one of the most common reasons patients miss their appointments is that they forget they even had a scheduled appointment. The AHRQ Strategy 6R (2020) was created as a guideline for healthcare providers highlighting two recommended interventions to help reduce missed appointments and to tackle the inadequate delivery of preventative healthcare services. They recommend instituting a patient reminder system and/or a provider reminder system as these systems have been shown to increase immunization rates, have fewer missed appointments, and increase preventative care visits (AHRQ, 2020). Higher levels of preventive care services are more likely to reduce morbidity and mortality from diseases that can be prevented (AHRQ, 2020).

The Community Preventative Services Task Force (CPSTF) and well as the US Preventative Services Task Force (USPSTF) also have recommended ways to increase preventative care visits as well as decrease missed appointments. The CPSTF (2022) recommends using reminder and recall systems based on the evidence that these systems have been shown to increase vaccination rates in children and adults and other preventative service visits. The

USPSTF recommendations are used by the NCQA each year to help develop the HEDIS measures which are evidence-based standard care measures to help drive healthcare quality (NCQA, 2022). Listed under the HEDIS measure *The Adults' Access to Preventative/Ambulatory Health Services* (Appendix B) are recommended ways to increase HEDIS scores and they list to contact patients who have not had a preventative health visit and make reminder calls to decrease *no-shows* (NCQA, 2022).

Effective Algorithms for Text Messaging Reminder/Recall Systems

Although many healthcare facilities in the United States utilize reminder/recall systems to decrease *no-show* rates and scheduling of appointments, there is not a lot of literature that establishes what is the best algorithm to use. In a randomized quality improvement project conducted among high *no-show* risk patients with primary care visits, Ulloa-Perez et al. (2022) compared the effect of one text message reminder with 2 text message reminders on *no-show* rates and same-day cancellations. The one text message reminder was sent 2 business days prior to the scheduled appointment, while the 2 text message reminders were sent 2 and 3 business days prior (Ulloa-Perez et al., 2022). Among the group of participants who received an additional text message reminder, *no-show* rates were reduced by 7%, and same-day cancelations were reduced by 6% (Ulloa-Perez et al., 2022). This study found that using a 2-text message reminder model may help to reduce primary care *no-show* and same-day cancellation rates so that healthcare resources may be utilized more efficiently (Ulloa-Perez et al., 2022).

In another study led by Milkman et al. (2021) entitled "A megastudy of text-based nudges encouraging patients to get vaccinated at an upcoming doctor's appointment", the researchers conducted a large field experiment that included sending nudges to patients via text messages in hopes to boost flu vaccination rates among participants that were scheduled for primary care visits. The results of this study found that the best-performing intervention was to send 2 text messages to patients reminding them to obtain their flu vaccine during their scheduled primary care visit and vaccination rates showed a 5% increase among participants (Milkman et al., 2021).

After reviewing the current literature pertaining to the use of reminder/recall systems and more specifically the use of text messaging reminder/recall systems as a way to increase annual wellness visits, the majority of the reviewed studies found that text messaging reminder/recall systems have positive benefits. Text messaging reminder/recall systems were shown to be a low-cost, efficient way to increase the scheduling of preventative care services as well as decrease missed appointments. These findings are relevant and significant to support this DNP project of implementing a mobile text messaging system to increase annual wellness visits within a primary care setting.

Project Aims

This DNP quality improvement project aimed to increase the number of adult annual wellness visits with the goal of providing age-specific preventative healthcare recommendations as supported by HEDIS metrics and USPSTF standards of care measures.

Project Objectives

Within the given timeframe, this DNP project sought to achieve the following objectives:

1. Research, plan, implement, and evaluate the use of mobile text messaging reminder/recall system to increase patient scheduling and completion of annual wellness visits.
2. Administer an educational seminar for the medical staff to train on the importance of preventative care and project implementation of sending mobile text messages to increase the scheduling and completion of adult annual wellness visits.
3. Create an educational tool to improve provider compliance to align with national standards for care pertaining to adult annual wellness visits and preventative healthcare recommendations.
4. Increase the number of adult patients who schedule and complete annual wellness visits by at least 5% during the 5-week implementation period.

Implementation Framework

The framework used for this DNP quality improvement project was the Model for Improvement also known as the Plan-Do-Study-Act (PDSA) Model, Plan-Do-Check-Act (PDCA) Cycle, Rapid Cycle Improvement Model, Deming Cycle or Shewhart Cycle (American Society for Quality [ASQ], 2023). First developed in the 1950s, the Plan-Do-Study-Act (PDSA) cycle is one of the oldest models of quality improvement but is still highly recognized as a project planning tool in a variety of fields and has been used to address a wide range of topics related to improvement projects (ASQ, 2023). Dr. W. Edwards Deming is known as a pioneer in quality improvement measurement methods and was first introduced to this integrated learning-improvement model by his mentor, Walter Shewhart of the famous Bell Laboratories in New York (W. Edwards Deming Institute, 2023). Deming was an American, engineer, statistician, lecturer, author, and management consultant and is referred to as the *Father of Total Quality Management* (W. Edwards Deming Institute, 2023). Deming is credited as being a major contributor to Japan's economic recovery after War World II by recommending quality control in industrial production by using a cycle of tallying defects, determining the cause, correcting the problem, and then tracking the results of these changes on subsequent product quality (W. Edwards Deming Institute, 2023).

Major Framework Tenants

The PDSA model is a simple but powerful tool for accelerating improvement and is a systematic process for gaining valuable learning and knowledge for the continual improvement of a product, process, or service (Institute for Healthcare Improvement, 2023). This model consists of four major tenants that are in a continual process of Plan, Do, Study, and Act (Appendix C).

The cycle begins with the ***Plan*** step. This involves identifying a goal or purpose, developing objectives, formulating predictions, and putting a plan into action (Nash et al., 2021). These activities are followed by the ***Do*** step, which involves carrying out components of the plan and documenting observations and data (Nash et al., 2021). Next comes the ***Study*** step, where

outcomes are monitored, data is analyzed, results are compared to predictions and what was learned is summarized (Nash et al., 2021). This step also tests the validity of the plan for signs of progress and success, or problems and areas for improvement (W. Edwards Deming Institute, 2023). The ***Act*** step closes the cycle, which involves determining the changes that must be made in the next cycle, recommendations to continue the quality improvement process, and the dissemination of findings (Nash et al., 2021). "A key feature of the Model for Improvement is the rapid and repeated use of the PDSA cycle" (Nash et al., 2021, p. 200). These four steps can be repeated over and over as part of a never-ending cycle of continual learning and quality improvement.

Application to DNP Project

Plan: During this phase, the specific scope of this project was identified, and the key stakeholders were included in the planning process. The project goals and objectives were developed and the timeline for the project cycle was determined. Training in the use of the electronic health record (EHR) reminder/recall system was required for all staff involved. An educational pamphlet for the medical staff to train on the importance of preventative care services and project implementation of sending mobile text messages to increase scheduling and completion of adult annual wellness visits was developed. This phase was also used to gather baseline data and information about the practices of the clinic and to determine who is defined as a current patient through gathering demographic information within the EHR. The clinic's wellness visit rates will be collected 5 weeks prior to project implementation as well as rates from the previous year.

Do: This was the implementation phase of the project and after the staff educational seminar was completed, the process of sending mobile text messages to remind adult patients to schedule and complete a wellness visit if they had not done so in the last 12 months, was carried out. This phase was also used to improve provider compliance with national standards for care pertaining to adult annual wellness visits and preventative

healthcare recommendations as defined by HEDIS markers and USPSTF standards of care measures.

Study: This phase of the project was used to analyze the quality improvement implementation of sending mobile text messaging through the examination of the number of scheduled and completed annual wellness visits within the implementation period compared to the prior 5 weeks and the previous year. This information was gathered using the EHR documentation ICD-10 billing codes that indicate preventative health visits and annual wellness visits scheduled and completed.

Act: This phase of the project included the presentation of data analysis and pertinent study findings (successes and failures) to project stakeholders. This step was also used to evaluate if the clinic will continue to utilize the mobile text messaging reminder/recall system for scheduling adult annual wellness visits after the final completion of the quality improvement project and any recommendations for further research. Dissemination of the DNP project findings was revealed during a formal presentation and submitted to review journals and nursing conferences for possible publication or poster presentation.

Population of Interest

Direct Population of Interest

All providers at the primary care clinic agreed to participate in this quality improvement (QI) project. There was a total of ten participants employed by the primary care clinic with three licensed as advanced practice mid-level providers, 4 certificate-prepared medical assistants, one certificate-prepared medical assistant who served as the Front Office Manager, one master's-prepared Practice Administrator, and one board-certified Doctor of Medicine (MD) who served as the clinic's Medical Director.

Indirect Population of Interest

All English-speaking established adult patients of the clinic (seen in the last 2 years) who had a cellular telephone number on file, who had consented to receive mobile text messages from

the clinic, and who had not completed an annual wellness visit in the last 12 months.

Inclusion Criteria:

- ***a.*** Primary care healthcare providers, medical assistants/front office staff, Practice Administrator, and Medical Director who worked full-time at the clinic during the time of this QI Project implementation.
- ***b.*** English-speaking patients who were considered established clients (seen in the last 2 years).

Exclusion Criteria:

- ***a.*** Providers at the primary care clinic who did not agree to participate in this QI project.
- **b.** Those providers who were on vacation or any kind of absence after the project was implemented but not completed yet or during the data collection period.
- **c.** Patients who were not considered established patients (not seen in the last 2 years).
- **d.** Patients who were non-English speaking.

Setting

The DNP project was implemented in a primary care clinic located in the central Las Vegas, Nevada valley with a population of 2.8 million in the metropolitan area. This facility was an adult health primary care clinic owned by a local private University and was known as an academic medical teaching facility. Nurse practitioner (NP) and DNP students from local Universities had affiliation agreements with the clinic to complete practicum hours throughout the year. This clinic employed three full-time board-certified nurse practitioners, four medical assistants who rotated as front office staff and patient care providers, one Front Office Manager, one Practice Administrator, and one Medical Director who was a board-certified MD. The clinic used twelve examination rooms and the electronic health record (EHR) used throughout this clinic was nAbleMD. This clinic was unique in the fact that it had recently rebranded itself from a neurology clinic to an adult health primary care clinic. The clientele was predominantly English-speaking, Caucasian (36%), African American (10%), or Asian (12%) with 58% identifying as

female and the median age was 44 years old. The patients in the clinic were mainly seen for sick visits/follow-ups and this clinic did not send mobile text messages to remind patients to schedule their annual wellness visits.

Stakeholders

The process of identifying key stakeholders was a valuable use of time as this process helped to generate support for the project and minimized potential barriers. Stakeholders can provide some impartial guidance on identifying implementation issues and solutions as well as offer insight into information gaps or available resources that may aid in supporting the success of the project (Moran et al., 2020). The identified key stakeholders that were involved with this QI project included the clinic's Medical Director, Practice Administrator, nurse practitioners (NPs), Front Office Manager, and medical assistants (MAs). Each stakeholder had a specific role in this QI project with the Medical Director and Practice Administrator helping the project lead review and analyze EHR reports; the NPs provided annual wellness visits using national recommendations; the MAs and Front Office Manager scheduled annual wellness visits within the 5-week implementation period when clients called in after receiving the annual wellness visit text message. Permission to complete this project was granted by the clinic's Medical Director (Appendix D) and an affiliation agreement between Touro University Nevada and the clinic was acquired and signed by all necessary parties (Appendix E).

During the development stage of this project, weekly planning, collaboration, and engagement among all stakeholders have taken place to review current clinic practices. Ways to improve the current annual wellness visit process with the goal of providing age-specific preventative healthcare recommendations supported by HEDIS markers and USPSTF standards of care measures were identified during the development/planning stage with the help of the nurse practitioners, Practice Administrator, and the Medical Director. The exact wording of the mobile text message was evidence-based and the Medical Director, Practice Administrator, and nurse practitioners were involved in approving the final draft of the proposed message for the

established patients. The implementation stage of this DNP QI project was conducted by the project lead with the help of all stakeholders in the tracking of mobile messages sent out as well as the number of scheduled and completed annual wellness visits.

Interventions

This project was designed to be a quality improvement initiative with the intervention to implement a mobile text messaging reminder system to increase patient scheduling and completion of annual wellness visits. This part of the project was the ***Do*** stage of the PDSA cycle of the project's framework which involved implementing components of the plan and documenting data and observations (Nash et al., 2021). The implementation timeframe was 5 weeks and all staff at the clinic participated in this project including the Medical Director, Practice Administrator, Front Office Manager, three nurse practitioners, and four medical assistants. There were be ten participants in total.

Two Weeks Prior to Implementation

Two weeks prior to the start of the implementation period, the project lead examined the EHR to determine which patients meet the inclusion criteria of being an established patient of the clinic. The established patient had a mobile number on file, consented to receive mobile text messages from the clinic, and had not had an annual wellness visit within the last 12 months.

One Week Prior to Implementation

One week prior to implementation, the project lead inputted the mobile text message (Appendix F) into the mobile messaging system, which was a built-in feature of the clinic's established EHR. For each of the patients that meet the inclusion criteria, a mobile text message was inputted and scheduled to be delivered on a later date, which was either Monday or Tuesday of implementation week one.

Implementation Week One

At the beginning of implementation week one, the project lead held one educational seminar for the entire medical staff, who were all in attendance and participated in the project.

The educational seminar was conducted to provide training on the importance of preventative care services and project implementation details. This educational seminar lasted a total of 30 minutes at which time an educational pamphlet (Appendix G) was distributed and any questions regarding project implementation was answered by the project lead.

Mobile text messages were sent in divided numbers, half on Monday and the other half on Tuesday of implementation week one. It was the responsibility of the MAs and Front Office Manager to begin scheduling the annual wellness visits within the 5-week implementation period when patients called to schedule an annual wellness visit in response to the mobile text messages they received.

Additionally in implementation week one, the advanced-practice providers were supplied with an educational annual wellness visit tool (Appendix H) with the ICD-10 codes, standards of preventative services based on HEDIS metrics, and USPSTF recommendations. The advanced practice providers utilized this educational annual wellness visit tool with established patients who scheduled and completed their annual wellness visits. The providers were expected to start using this tool during week one of implementation and continued using it throughout the entire implementation period.

Implementation Week Two

The key activities in implementation week two were mainly focused on the MAs and Front Office Manager as well as the nurse practitioners. The primary duty of the Front Office Manager and MAs were to continue scheduling annual wellness visits within the 5-week implementation period when patients called in to schedule an annual wellness visit in response to the mobile text messages they received. The advanced-practice providers continued to utilize the educational annual wellness visit tool with established patients who come in for their annual wellness visits and provided preventative services based on HEDIS metrics and USPSTF recommendations.

Implementation Weeks Three, Four, & Five

In weeks three, four, and five of the implementation period all activities mentioned in week two of the implementation period were continued as previously described. In addition, the project lead, with the help of the Medical Director and Practice Administrator, began auditing the EHR summary reports and documenting pertinent data on the chart auditing tool (Appendix I). By the end of week 5, all chart audits were completed in preparation for data analysis to begin. The complete project implementation timeline can be found in Appendix J**.**

Very little resources are needed for the implementation of this quality improvement project. The project lead used a personal computer to develop the tools necessary for this project. The EHR summary reports were obtained for chart audits by using functions within the EHR that allowed reports to be generated with the correct ICD-10 codes for annual wellness visits. These reports initially had patient-identifiable information when they were generated. To maintain patient privacy these patient identifiers were not used in the chart auditing process. Instead, each patient was assigned a number that was recorded on the chart auditing tool for data analysis. These initial EHR reports with patient identifiers were shredded using a paper shredder located in the clinic once the data that was pertinent to this project had been documented appropriately on the chart auditing tool.

The EHR already had a built-in system for mobile text messaging that was utilized. A small amount of paper materials were necessary for the medical staff's educational pamphlets and the provider's annual wellness visit tool which was laminated to ensure durability throughout the entire implementation period. The largest resource necessary for this project was the medical staff's time, in which all implementation activities took place during regular clinic hours. The MAs experienced a larger volume of calls as well as patient check-ins and the mid-level providers may experienced a larger volume of patients scheduled for annual wellness visits.

Tools

Each tool that was utilized during the implementation period of this quality improvement project for the purpose of carrying out the interventions necessary to achieve the set objectives will be described in detail in this section.

Educational Pamphlet for Medical Staff

To provide education and training to the entire medical staff who participated in this quality improvement project, an educational pamphlet (Appendix G) was developed by the project lead. Since the clinic did not have a traditional conference room with a way to display a formal presentation to the entire staff, such as a PowerPoint, a pamphlet was chosen to distribute this educational information. The pamphlet included educational material highlighting the name of the project, why preventative care is important, project purpose, project question, project timeline, project aim, project objectives, and the roles of each participant. At the beginning of implementation week one, the project lead held one educational seminar for the entire medical staff, who were all in attendance and participated in the project. This educational seminar lasted a total of 30 minutes at which time the educational pamphlet was distributed and any questions regarding project implementation was answered.

Provider Annual Wellness Visit Educational Tool

An annual wellness visit educational tool (Appendix H) was developed by the project lead and Medical Director, for the nurse practitioners to improve compliance with national standards pertaining to adult wellness visits and preventative healthcare recommendations. The provider annual wellness visit educational tool highlighted the appropriate ICD-10 codes that needed to be used for this QI project and age-specific preventative healthcare recommendations as supported by USPSTF recommendations and HEDIS metrics. The provider educational tool was one page in length (front and back), laminated for durability, and was distributed to the nurse practitioners as well as placed in each exam room at the beginning of implementation week one so it was available for utilization during the entire implementation period.

Mobile Text Message for Scheduling AWV and Reminder Text Message

In week one of the project implementation period, a mobile text message (Appendix F) was sent out reminding patients that meet the inclusion criteria, to schedule their annual wellness visit. The text message was written and developed by the project lead as supported by current evidence regarding appropriate wording welcoming patients to schedule their annual wellness visit and having an appointment waiting for them (Milkman et al., 2021). The Medical Director, Practice Administrator, and nurse practitioners were involved in approving the text message once it was written and developed by the project lead. The text message was sent out to half of the patients that meet the inclusion criteria on Monday and then the other half were sent out on Tuesday of implementation week one.

Once a patient called in and schedules their annual wellness visit, the patient received a text message confirming the newly scheduled appointment. A reminder text message (Appendix F) was then sent out 24 hours before the scheduled annual wellness visit asking the patient to confirm or call to reschedule if they would not be able to attend their appointment. The appointment confirmation text message as well as the reminder text message were standardized within the EHR and was not newly developed for this project. A text message sent out on 2 different occasions, immediately after scheduling an appointment, and 24 hours prior to a scheduled appointment, was a designed algorithm supported by current evidence (Ulloa-Perez et al., 2022)

Chart Auditing Tool

A chart auditing tool (Appendix I) was designed by the project lead and aided in the accurate recording of data needed for statistical analysis. Starting in week three of the implementation period, EHR summary reports were generated using the annual wellness visit ICD-10 codes that the nurse practitioners were instructed to use for this quality improvement project. From these EHR summary reports, the project lead, with the help of the Medical Director and Practice Administrator, recorded on the chart auditing tool the patient's age, gender, the date

the annual wellness visit text message was sent, if an annual wellness visit was scheduled (yes/no), if an annual wellness visit was completed (yes/no), and if the patient rescheduled for a time after the 5 week implementation period. To maintain patient privacy, no patient identifiers were used during this project and the patient was assigned a number that was documented on the chart auditing tool. The chart auditing data that was collected was then entered into a spreadsheet and analyzed to determine if the number of adult patients who scheduled and completed annual wellness visits increased by at least 5% during the 5-week implementation period as compared to five weeks prior and 1 year prior. In addition, those patients who received a text message, scheduled an annual wellness visit, and then rescheduled for a time after the 5-week implementation period was also tracked for inclusion in the final data analysis.

Plan for Data Collection

This quality improvement project will utilize one main data source which includes: electronic health record (EHR) patient demographics reports with chart auditing tool data collection. The data collection will reflect baseline data of scheduled and completed annual wellness visits one year prior to project implementation, five weeks prior to implementation, and post-implementation data five weeks from the beginning of the implementation period. The independent variable is the sending of mobile text messages to remind patients to schedule their annual wellness visit as well as the reminder to complete their annual wellness visit. The dependent variable is the patients' actual scheduling and completion of annual wellness visits.

The data to be analyzed from the EHR patient demographics reports will be collected weekly (starting two weeks after the implementation period began) by the project lead, with support from Medical Director and Practice Administrator, using the chart auditing tool that was developed for this project (Appendix H). The Medical Director and Practice Administrator will assist directly with navigating the demographic reporting function of the EHR. The patient demographics reporting function reveals when the patient was last seen at the clinic; if the patient

has had a wellness exam (ICD 10 codes) in the last twelve months; birthdate to determine age; the gender patient identifies as; and established primary provider at the clinic.

To maintain the privacy and confidentiality of patient EHR chart information during the project, no identifying data will be utilized as patients will be identified by a number and not by name. The original EHR reports that contain personal identifiers will be shredded using a paper shredder located at the clinic. This will occur after patients are assigned numbers and all the information needed is collected for data analysis. The outcomes from the statistical tests will only be reported as an aggregate result to ensure no linkage to the patients who received text messages. Collected data will be stored on a computer protected by two-factor authentication for the duration of the project and three years following the project completion date.

Plan for Analysis

The data that was collected during this QI project will be evaluated by inputting the values into an Excel database and using the IBM Statistical Package for Social Science (SPSS) statistical software version 26 to compare annual wellness visit scheduled and completion rates before and after the project implementation period. Both the post-intervention annual wellness visit scheduled and completion rates will be calculated by dividing the number of annual wellness visits scheduled or completed by the number of patients that met the inclusion criteria during the five-week implementation period who were sent a reminder to schedule their annual wellness visit. The information can be presented as a percentage change in the rate of scheduled and completed annual wellness visits compared to five weeks prior as well as one year prior.

The non-parametric Chi-squared (χ 2) test for independence can also be used to determine if there is a significant statistical association between gender (1 = Female, 2 = Male) and schedule/completion of annual wellness visits (1 = Yes, 2 = No). This non-parametric test will be used to determine association because the sample size is small, there are two categorical responses, and the data does not rely on normal distribution or requirements of validity (Pallant,

2020). A statistician, a colleague of the Medical Director, will be available to assist with data analysis if needed or to answer questions pertaining to the project data analysis.

Ethics/Human Subjects Protection

To maintain ethical considerations during the planning and implementation of the project, such as the confidentiality and the protection of human subjects, no patient names or identifying data were utilized. The Health Insurance Portability and Accountability Act (HIPPA) was followed by all medical staff that participated in this project. Recruitment of clinic staff to participate in this QI project was done by word of mouth within the clinic by the Medical Director and Practice Administrator. There was no monetary or other compensation for participation in the project. In April 2023, the project lead completed the Basic/Refresher course of the Collaboration Institutional Training Initiative (CITI) with the purpose of providing education on how to properly treat human subjects during social or behavioral research projects.

This project was determined to be a Quality Improvement (QI) project by Touro University, Nevada faculty which posed no risk to human subjects. Touro University, Nevada did not require formal supervision from the Touro University Institutional Review Board (IRB) for QI projects. The clinic where the project was conducted also did not require QI projects to have formal supervision by their IRB. Since the clinic was affiliated with a local private university, the university requested the IRB for Social/Behavioral Not Human Subject Research form be filed along with the determination form from Touro University, Nevada as a courtesy to ensure the protection of their patients and employees.

Analysis of Results

The purpose of this quality improvement project was to determine if the use of a patient appointment reminder/recall system via mobile text messaging would increase the percentage of patients scheduling and completing annual wellness visits in a primary care clinic. The timeline developed within the original project proposal was not modified in any way during the implementation period and a copy of the original timeline is presented in Appendix J. In the data

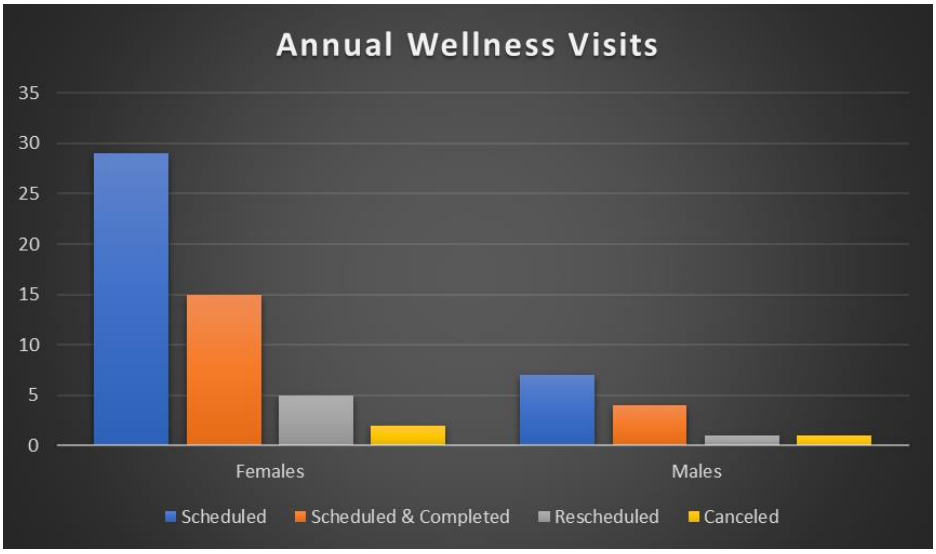
analysis process of this project, no missing data was found.

The number of patients who met the inclusion criteria (adult patients seen in the clinic in the last 2 years) was the original patient population of 2,086. For the purpose of this analysis, the assumption was made that the patient population was stable over the last year. The clinic EHR was then queried to determine the number of patients who came into the clinic for an annual wellness visit during three predetermined periods: a) 07/05/2022 through 08/08/2022, five weeks one year prior to the intervention period; b) 05/31/2023 through 07/04/2023, five weeks just prior to the implementation period; c) 07/05/2023 through 08/08/2023, five-week intervention period.

Description of Intervention

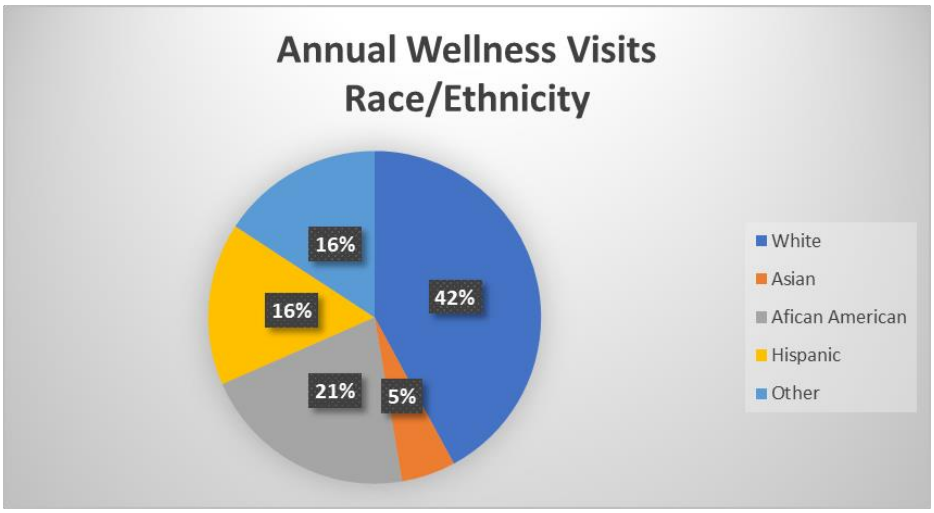
Of the original patient population of 2,086 patients, ICD-10 codes were used to determine which patients had not had an annual wellness visit in the last year, from 06/01/2022 through 05/31/2023, which totaled 1,528. After removing the patients who did not have a cell phone on file, had opted out of text messaging, and were banned from the clinic (due to excessive no-shows or unpaid bills), a total of 1,320 patients were sent mobile text messages reminding them to schedule their annual wellness visit. Of the 1,320 text messages sent out, 36 patients (2.7%) scheduled an annual wellness visit while 19 (53%) of the 36 were able to schedule and complete an annual wellness visit within the 5-week implementation period. Females made up 79% of those who scheduled and completed annual wellness exams. Figure 3 illustrates the number of females versus males who scheduled, scheduled/completed, rescheduled, and canceled annual wellness visits within the 5-week implementation period.

Figure 3: Gender Comparison of Annual Wellness Visit Rates During the Implementation Period



Of the participants, 42% described their race/ethnicity as white non-Hispanic with African American being the second largest racial group at 21% (Figure 4).

Figure 4: Race/Ethnicity of Those Who Scheduled & Completed Annual Wellness Visits During Implementation



The age range of the patients who scheduled and completed their annual wellness visits within the intervention period ranged from 24 to 64 years old with the average age being 40 years old.

Comparisons Among the Different Five-Week Time Periods

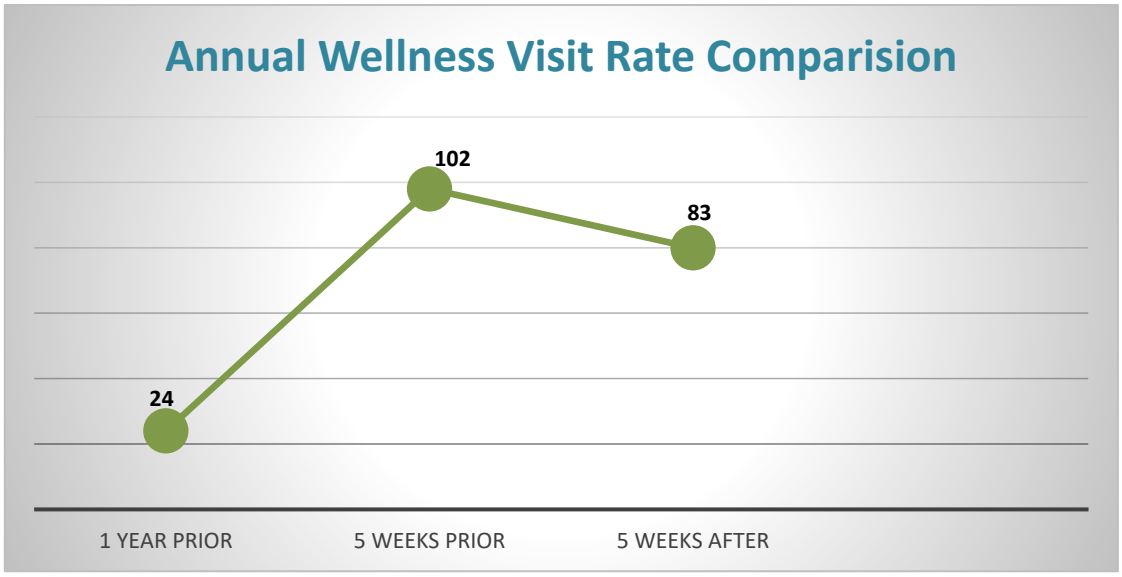
This QI project demonstrated a 325% increase in the number of patients that scheduled and completed annual wellness visits during the intervention period, as compared to the same five-week period one year prior. Compared to the five weeks before the project was implemented, there was an 18.6% decrease in the number of patients who scheduled and completed their annual

wellness visits during the five-week implementation period of those who met the inclusion criteria. (Chart 1) (Figure 5)

Chart 1: Annual Wellness Visit Percentages of Comparison Groups

	AWV Scheduled and Completed	*Original Patient Population*	*Percentage Change*	*P Value*
One Year Prior	24	2086		
5 Weeks Prior	102	2086	+325% compared to 1 year prior	< .001
Intervention 5 Weeks	83	2086	-18.6% compared to 5 weeks prior	.176

Figure 5: Annual Wellness Visit Rate Comparison Between Time Periods



When comparing the rates of annual wellness visits during the different five-week periods, the project lead also assessed for statistical significance, with a predetermined level of $p < .05$ considered significant. A comparison of the number of annual wellness visits seen in the five weeks of 2022 (24) to the five-week intervention period (83), using a two-sided Chi-Square Test for Independence. The Chi-Square Test for Independence (with Yates' Continuity Correction) indicated a statistical association between these two groups, $p = < .001$. (Chart 2)

Chart 2: Statistical Significance of One Year Prior Compared to Intervention Period

Groups * AW Visits Crosstabulation

Count

		AW Visits		
		No	Yes	Total
Groups	Experimental Cohort	2003	83	2086
	2022 Cohort	2062	24	2086
Total		4065	107	4172

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	33.389[a]	1	<.001		
Continuity Correction[b]	32.267	1	<.001		
Likelihood Ratio	35.279	1	<.001		
Fisher's Exact Test				<.001	<.001
Linear-by-Linear Association	33.381	1	<.001		
N of Valid Cases	4172				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 53.50.
b. Computed only for a 2x2 table

Then a comparison of the number of annual wellness visits seen in the five weeks prior to the intervention (102) to the five-week intervention period (83). The $p = .176$, which was found to be not statistically significant. (Chart 3)

Chart 3: Statistical Significance of 5 Weeks Prior Compared to the Intervention Period

Groups * AW Visits Crosstabulation

Count

		AW Visits		
		No	Yes	Total
Groups	Experimental Cohort	2003	83	2086
	Previous 5 Weeks Cohort	1984	102	2086
Total		3987	185	4172

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	2.042[a]	1	.153		
Continuity Correction[b]	1.833	1	.176		
Likelihood Ratio	2.045	1	.153		
Fisher's Exact Test				.176	.088
Linear-by-Linear Association	2.041	1	.153		
N of Valid Cases	4172				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 92.50.
b. Computed only for a 2x2 table

When the project lead chose which statistical test to use for this section of data analysis, assumptions for each test were considered. The first assumption was that the data in each group would be normally distributed which was met as no outliers were noted. The second assumption was met as the data could be cross-tabulated as there were two categorical variables with two categories in each (cohort groups, scheduled & completed AWV: yes/no) that were able to create a 2x2 table. The third assumption that must be met is that variables are independent of each other which was met as the independent variables were all linearly independent. The fourth assumption was that at least 75% of cells would have expected frequencies of 5 or more, which was also met.

Further Analysis of the Intervention Period Results

Next, the project lead examined the gender characteristics of the individuals who scheduled and completed annual wellness visits during the five-week intervention period, to assess for any statistically significant differences. A Chi-Square Test for Independence was used to explore the association between gender and scheduling and completing annual wellness visits. Again, the project lead had to consider if all the assumptions for each statistical test were met before choosing the right statistical test to use for data analysis in this section. All assumptions were met except the fourth assumption that the lowest expected frequency in any given cell is 5 or more in at least 75% of cells. Since this last assumption was violated, Fisher's Exact Probability Test will be reported instead of the Chi-Square Test for Independence which is

generated automatically as part of the output for Chi-square by IBM SPSS 26 Statistics (Pallant, 2020). The results of the Fisher's Exact Test indicated that there was no statistical association between gender and scheduling and completing annual wellness visits, $p = 1.0$. (Chart 4)

Chart 4: Statistical Significance of Gender and Scheduled/Completed AWV

Gender * Scheduled & Completed AWV Crosstabulation

			Scheduled & Completed AWV		
			Yes	No	Total
Gender	Female	Count	10	5	15
		% within Gender	66.7%	33.3%	100.0%
		Adjusted Residual	-.3	.3	
	Male	Count	3	1	4
		% within Gender	75.0%	25.0%	100.0%
		Adjusted Residual	.3	-.3	
Total		Count	13	6	19
		% within Gender	68.4%	31.6%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.101[a]	1	.750		
Continuity Correction[b]	.000	1	1.000		
Likelihood Ratio	.105	1	.746		
Fisher's Exact Test				1.000	.627
Linear-by-Linear Association	.096	1	.756		
N of Valid Cases	19				

a. 3 cells (75.0%) have expected count less than 5. The minimum expected count is 1.26.

b. Computed only for a 2x2 table

Summary of Results

The aim of this quality improvement project was to increase the number of adult annual wellness visits with the goal of providing age-specific preventative healthcare recommendations as supported by HEDIS metrics and USPSTF standards of care measures. The objectives established to meet this project's aim were to research, plan, implement, and evaluate the use of mobile text messaging reminder/recall system; administer an educational seminar for the medical staff to train on the importance of preventative care services; create an educational tool to

improve compliance amongst providers to align with national standards for care pertaining to adult annual wellness visits and preventative healthcare recommendations; and to increase the number of adult patients who scheduled and completed annual wellness visits by at least 5% during the 5-week implementation period as compared to one year prior and 5 weeks prior.

This project was successful in meeting three of the four objectives established for this project. One of the greatest strengths of this project was in line with meeting the first objective as every step of the process was executed effectively with no issues or concerns even during the implementation period and thus the quality improvement intervention was conducted successfully. Another strength of this project, which also effectively met the second and third objectives, was the preventative health educational seminar for the medical staff and the creation of an educational tool to increase compliance amongst the providers to align with national standards for adult annual wellness visits and preventative care recommendations. Educating the entire staff made the staff feel empowered and active members of the project which was evident in their positive attitudes towards the project's success and excitement when patients were calling in to schedule their annual wellness visits in response to the mobile text messages. The providers expressed that they really appreciated having ICD-10 codes and national standards as well as preventative health recommendations in one concise laminated sheet for quick and easy reference which helped all three providers comply with national standards. The providers also stated that they plan to continue to use the educational tool that was created for this project for future adult annual wellness exams to ensure compliance with national standards and recommendations.

The last objective was to increase the number of adult patients who scheduled and completed annual wellness visits by at least 5% during the 5-week implementation period compared to one year prior and 5 weeks prior. This objective was met for the one year prior with a large increase of 325% but was not met when comparing the five weeks during the intervention period with the five weeks prior, which demonstrated an 18.6% decrease. This decrease could have possibly been due to several factors that are speculative at this point as much more research

would need to be conducted to find the actual cause. One major factor could have been the grand opening of the new Culinary Academy Health Center (opened in May) which is located within only a few city blocks of the clinic. This may have had a direct effect on the number of patients coming to the clinic for annual wellness exams in response to the text messages as a large portion of the clinic's established patient population are members of the Culinary Academy and may have chosen to become patients of the new Culinary Academy Health Center instead.

Although there were several strengths to this quality improvement project, some weaknesses of this project may have also contributed to the overall results. First, it must be mentioned that this project was conducted in a small primary care clinic that recently changed from a neurology clinic to a primary care clinic. Since this clinic was small the overall results were just a small sample of the general population. Also, because this clinic was rebranding itself, ongoing marketing efforts were being executed during the same time as this project and throughout the year prior which could have affected the results. Secondly, trying to measure both the scheduling and completing of annual wellness visits in such a small implementation period of 5 weeks could have also affected the results. The project could have shown more favorable results if the design of the project just measured the scheduling of annual wellness visits and not the completion, as more than 50% of those who scheduled made their appointments outside of the 5-week implementation period.

Interpretation of Results

This project's outcome of an increase from the one year prior compared to the intervention period and then a decrease from the five weeks prior to the implementation period would suggest that the intervention may or may not have contributed to the initial increase. The increase could have resulted from several reasons other than the project intervention including a growing patient population as the clinic continues to establish itself within the community; ongoing marketing efforts as well as community events that the clinic had been involved in; the providers coding more accurately with continual education on proper ICD-10 coding; or the clinic's adult

population seeking preventative health care services in the form of annual wellness visits, on their own. The results that were observed differed from the anticipated outcome as the project lead hoped to see a higher percentage of patients scheduling and completing their annual wellness visits in direct response to the mobile text messaging reminders that were sent out.

Regardless of the results of this project, the clinic administrators should be pleased to see that there is a growing number of patients, compared to the year prior, who are engaging in preventative healthcare services. This increasing trend helps the overall aim of this quality improvement project by seeing an increased number of adult annual wellness visits that provide age-specific preventative healthcare recommendations which are supported by HEDIS metrics and USPSTF standards of care measures. The hope is that the efforts of this quality improvement initiative are continued in this primary care practice as the fundamentals of what this project aimed to achieve are important to the overall health of the clinic's population.

As previously stated, an essential need in the U.S. is to establish a healthcare system that focuses on a culture of wellness where individuals value their health by taking an active role in preventative care services, such as annual wellness visits. Managing chronic disease, keeping well people well, and reducing health risks are key priorities in maintaining a healthy population (Nash et al., 2021). The burden of disease on the U.S. population continues to increase with 45% of the U.S. population suffering from at least one chronic condition even though there is a high level of spending on healthcare (Raghupathi & Raghupathi, 2018). But if individuals can be encouraged to actively participate in preventative health services, then the 33% of U.S. adults that went without recommended preventative care would hopefully decrease over time.

The cost to send mobile text messages to patients during this project reminding them to take an active role in their own healthcare, cost the primary care clinic nothing as the messaging system was a part of the purchase agreement made with the clinic's EHR company. The price of not reminding patients to take an active role in their own health and well-being will continue to cost the U.S. healthcare system trillions, not to mention the poor quality of life and possibly

premature death that plagues individuals who suffer from chronic disease. In 2020, it was reported that chronic diseases were the leading contributors to the nation's $4.1 trillion in annual healthcare costs (NCCDPHP, 2020). Risky behaviors such as tobacco use, physical inactivity, excessive alcohol, and poor nutrition are the main causes of many chronic illnesses suffered by the U.S. population today (NCCDPHP, 2020). If medical providers as well as the American population learn to prevent and manage chronic conditions, the result could be a reduction in disabilities and an improved quality of life. (Raghupathi & Raghupathi, 2018).

Although the results of this quality improvement project did not convincingly show that a mobile text messaging reminder/recall system increased the number of patients who scheduled and completed annual wellness visits, previous research discussed in the literature review did show favorable results regarding text messaging reminders in healthcare settings. Text messaging recall and reminder systems both have been shown to reduce patient no-show rates and increase preventative care visits (AHRQ, 2020). A unique opportunity has been created for technology-based health promotion interventions, such as mobile messaging services reminding to schedule annual wellness visits, as cellphone ownership has widely increased amongst the American population (Ntiri et al., 2022). This cellphone ownership increase has allowed many individuals who may not have had access to computer-based health promotion initiatives to now be included and take part in technology-based health promotion activities (Ntiri et al., 2022). As text messaging continues to be widely used across all age groups, evidence shows that there is growing support for the use of text messaging over voice calls amongst the general public as many view text messaging as more time efficient, less intrusive, more convenient, and less costly (Martinengo et al., 2020). Compared to other traditional patient reminder methods that have been used in the past, such as mailed appointment reminders or voice calls, evidence shows that mobile messaging appointment reminders, sent automatically through clinic EHRs, are generally less labor-intensive resulting in less cost and overall, more easily managed (Boone et al., 2022).

Limitations

During the implementation of this quality improvement project, four main limitations were identified which may have influenced the overall results: length of the implementation period, project design, data collection process, and generalizability of the project.

Length of Implementation

The implementation period of this quality improvement project was over a period of 5 weeks. The project design and intervention had to be introduced to the stakeholders, education provided, intervention implemented, and end-of-project data obtained within this 5-week period. The project lead made every effort to try and minimize the effects that a short time period could have on the results of this quality improvement project by ensuring suitable preparation during every step was well organized to be delivered completely without any delays. Delays at any point in the project could have resulted in significant negative consequences due to the short implementation timeframe.

Project Design

Trying to measure both the scheduling and completing of annual wellness visits in such a small implementation period of 5 weeks was also a limitation identified during this project which may have directly affected the results. The project could have shown more favorable results if the design of the project only measured the scheduling of annual wellness visits and not both the scheduling and completion. During the data analysis process, the project lead noticed that more than 50% of those who scheduled annual wellness visits in response to the text message reminders that were sent out, made their appointments outside of the 5-week implementation period. The project lead attempted to limit the number of patients who scheduled and completed their annual wellness visits outside the intervention period by educating the front office staff on encouraging those who called in to schedule annual wellness visits by giving suggested appointment dates within the 5-week implementation period.

Data Collection Process

The EHR system that the clinic utilized for scheduling, charting, and reporting was developed by a very small company whose headquarters were based in Texas and was utilized by only twelve other clinics nationally. For this reason, querying data reports was very difficult as the system-reported data output was very limiting. This EHR system was also very tedious when querying reports as the project lead realized that if reports were generated using different methods, which should have given the same data results, the reports were inconsistent. To minimize this limitation, the process that was used to maintain consistency of the data being analyzed during the different time periods was meticulously followed from the previous data pull. Any deviation would have generated reports that were different from previously generated data which would have made comparison data from various time periods inaccurate.

Generalizability of Project

Since this project was conducted in a small primary care clinic, the overall results were just a small sample of the general population causing the project lead to make assumptions regarding a broader group of individuals. The patient population selected for evaluation may have also affected the generalizability of the project as inclusion and exclusion criteria were used instead of a random selection process. The efforts made to minimize the limitation of generalizability from non-random selection and conducting this quality improvement project in such a small primary care clinic included ensuring the sample size, tools, instruments, and data analysis process were accurate and reliable.

Conclusion

The purpose of this quality improvement project was to increase the number of patients who were seen at a primary care clinic for annual wellness visits so that the medical providers could deliver age-specific preventative healthcare services and screenings. Based on the findings from this project, the number of annual wellness visits seen at the primary care clinic significantly increased as compared to the previous year.

These findings proved to be useful for the primary care clinic as this project encouraged the site to evaluate its current process of providing preventative healthcare services and make modifications to create a system that helped improve the number of patients participating in annual wellness visits. Due to the findings of this project, the site plans to continue to use a reminder system to increase the number of patients seen for annual wellness visits as well as continue to use the provider educational tool to deliver consistent preventative care services as supported by HEDIS metrics and USPSTF recommendations.

The results of this quality improvement project will be disseminated to the Touro University, Nevada faculty and students on October 5, 2023, in the form of a formal presentation to share the project experience and results with other members of the nursing profession. A poster presentation will also be presented to the Touro University, Nevada community as well as possibly at a conference hosted by the Nevada State Board of Nursing located in Las Vegas, Nevada scheduled for March 2024.

Advanced practiced nurses play a pivotal role in providing primary care services today as there remains a shortage of primary care physicians. This makes nurse practitioners key players in providing preventative health services and screenings. Mobile text messaging is a way primary care clinics can encourage already established patients to participate in annual wellness visits so that providers can deliver quality preventative healthcare services and increase the overall health of the population they serve.

Further research is needed to understand more about preventative health services and the impact text messaging may have on nurse practitioners being able to reach clients who do not have access to other computer-based interventions. Next steps could include national and local policies written to incorporate the use of mobile text messaging to integrate technology into the modern healthcare environment. Using mobile text messaging to encourage and remind patients to take an active role in their personal health by participating in preventative health services, may help the U.S. get closer to establishing a healthcare system that focuses on a culture of wellness.

References

Agency for Healthcare Research and Quality. (2020). *Strategy 6 R: Reminder systems for immunizations and preventative services.* https://www.ahrq.gov/cahps/quality-improvement/improvement-guide/6-strategies-for-improving/health-promotion-education/strategy6r-reminder-systems.html

American Society for Quality. (2023). *What is the Plan-Do-Check-Act (PDCA) cycle?* https://asq.org/quality-resources/pdca-cycle

Boone, C. E., Celhay, P., Gertler, P., Gracner, T., & Rodriguez, J. (2022). How scheduling systems with automated appointment reminders improve health clinic efficiency. *Journal of Health Economics, 82*. https://doi.org/10.1016/j.jhealeco.2022.102598.

Borsky, A., Zhan, C., Miller, T., Ngo-Metzger, Q., Bierman, A. S., & Meyers, D. (2018). Few Americans receive all high-priority, appropriate clinical preventive services. *Health Affairs, 37(6), 925–928*. https://www.healthaffairs.org/doi/full/10.1377/hlthaff.2017.1248

Centers for Medicare & Medicaid Services. (2022). *National Health Expenditure Fact Sheet*. https://www.cms.gov/research-statistics-data-and-systems/statistics-trends-and-reports/nationalhealthexpenddata/nhe-fact-sheet

Centers for Medicare & Medicaid Services. (2010). *Background: The Affordable Care Act's new rules on preventative care.* https://www.cms.gov/CCIIO/Resources/Fact-Sheets-and-FAQs/preventive-care-background

Community Preventative Services Task Force. (2015). *Vaccination programs: Client reminder and recall systems*. https://www.thecommunityguide.org/findings/vaccination-programs-client-reminder-and-recall-systems.html

W. Edward Deming Institute. (2023). *Explore: PDSA Cycle*. https://deming.org/explore/pdsa/

Fletcher, G.S. (2020). *Evidence-based approach to prevention.* https://www.medilib.ir/uptodate/show/7570

Glanz, K. & Rimer, B.K. (2005). *Theory at a glance: A guide to health promotion practice*. NIH Publication, Bethesda, MD: U.S. Department of Health and Human Services, National Institute of Health, National Cancer Institute. https://cancercontrol.cancer.gov/sites/default/files/2020-06/theory.pdf

Institute for Healthcare Improvement. (2023). *Tools: Plan-Do-Study-Act Worksheet*. https://www.ihi.org/resources/Pages/Tools/PlanDoStudyActWorksheet.aspx

Ladley, A., Broom, M., & Arthur, J. (2020). Update on the evaluation of text messaging as an educational method to improve health care utilization. *Academic Pediatrics, 20(7), 889-890.* https://doi.org/10.1016/j.acap.2020.04.004

Levine, S., Malone, E., Lekiachvili, A., & Briss, P. (2019). Health care industry insights: Why the use of preventive services is still low. *Preventing Chronic Disease*, 16, 1–6. https://www.cdc.gov/pcd/issues/2019/18_0625.htm

Martinengo, L., Spinazze, P., & Car, J. (2020). Mobile messaging with patients. *BMJ, 368, m.884*. doi: https://doi.org/10.1136/bmj.m884

Milkman, K. L., Patel, M. S., Gandhi, L., Graci, H. N., Gromet, D. M., Ho, H., Kay, J. S., Lee, T. W., Akinola, M., Beshears, J., Bogard, J. E., Buttenheim, A., Chabris, C.F., Chapman, G. B., Choi, J. J., Dai, H., Fox, C. R., Goren, A., Hilchey, M. D., Hmurovic, J., John, L. K., Karlan, D., Kim, M., Laibson, D., Lamberton, C., Madrian, B. C., Meyer, M. N., Modanu, M., Nam, J., Rogers, T., Rondina, R., Saccardo, S., Shermohammed, M., Soman, D., Sparks, J., Warren, C., Weber, M., Berman, R., Evans, C. N., Snider, C. K., Tsukayama, E., Van den Bulte, C., Volpp, K. G., & Duckworth, A. L. (2021). A megastudy of text-based nudges encouraging patients to get vaccinated at an upcoming doctor's appointment. *Proc Natl Acad Sci U S A, 118(20):e2101165118*. doi: 10.1073/pnas.2101165118. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8157982/

Molina Healthcare of Nevada. (2023). *2023 Primary care provider pay-for-quality bonus program*. https://www.molinahealthcare.com/members/nv/en-us/health-care-

professionals/home.aspx

Moran, K., Burson, R., & Conrad, D. (2020). *The doctor of nursing practice project: A framework for success (3rd ed.)*. Jones & Bartlett Learning.

Nash, D. B., Skoufalos, A., Fabius, R. J., & Oglesby, W.H. (2021). *Population health: Creating a culture of wellness. 3rd edition*. Burlington, MA: Jones & Bartlett Learning.

National Center for Chronic Disease Prevention and Health Promotion. (2022). *About chronic diseases*. https://www.cdc.gov/chronicdisease/about/index.htm

National Center for Health Statistics. *Mortality in the United States, 2020*. https://www.cdc.gov/nchs/products/databriefs/db427.htm

National Committee for Quality Assurance. (2022). *Using HEDIS measure specifications*. https://www.ncqa.org/hedis/using-hedis-measures/

Ntiri, S. O., Swanson, M., & Klyushnenkova, E. N. (2022). Text messaging as a communication modality to promote screening mammography in low-income African American women. *J Med Syst, 46(5):28*. doi: 10.1007/s10916-022-01814-2. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9005912/

Osborn, R., Squires, D., Doty, M.N., Sarnak, D.O., & Schneider, E.C. (2016). In new surveys of eleven countries, US adults still struggle with access to and affordability of health care. *Health Affairs, 35(12), 2327-2336*. https://www.healthaffairs.org/doi/full/10.1377/hlthaff.2016.1088

Pallant, J. (2020). *SPSS survival manual: A step by step guide to data analysis using IBM SPSS* (7th ed.). McGraw Hill.

Raghupathi, W., & Raghupathi, V. (2018). An empirical study of chronic diseases in the United States: A visual analytics approach to public health. *International Journal of Environmental Research and Public Health, 15(3), 431*. https://www.mdpi.com/1660-4601/15/3/431

Schneider, E.C., Sarnak, D.O., Squires, D., Shah, A., & Doty, M.N. (2017). *Mirror, mirror 2017: International comparison reflects flaws and opportunities for better US health care*. New

York, NY: The Commonwealth Fund. https://australiangpalliance.com.au/wp-content/uploads/2018/05/Schneider_mirror_mirror_2017.pdf

Ulloa-Pérez, E., Blasi, P. R., Westbrook, E. O., Lozano, P., Coleman, K. F., & Coley, R. Y. (2022). Pragmatic randomized study of targeted text message reminders to reduce missed clinic visits. *Perm J, 26(1):64-72*. doi: 10.7812/TPP/21.078. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9126539/

United Health Foundation. (2022). *American's Health Rankings: Summary of Nevada.* https://www.americashealthrankings.org/explore/states/NV

United States Census. (2018). *Older people projected to outnumber children for first time in U.S. history*. https://www.census.gov/newsroom/press-releases/2018/ cb18-41-population-projections.html

U.S. Preventive Services Task Force. (2022). *Published recommendations*. https://www.uspreventiveservicestaskforce.org/uspstf/topic_search_results?topic_status=P

U.S. Preventive Services Task Force. (2018). *Grading definitions*. https://www.uspreventiveservicestaskforce.org/uspstf/about-uspstf/methods-and-processes/grade-definitions

World Health Organization. (1989). *Ottawa Charter for Health Promotion.* https://www.who.int/teams/health-promotion/enhanced-wellbeing/first-global-conference

Appendix A

Quality Measures Bonuses

Table 1: Quality Measures and Bonus Amounts

Quality Measure	Minimum Performance*	Incentive for Exceeding Minimum*	Target 1	Target 1 Incentive	Target 2	Target 2 Incentive
Adults' Access to Preventive/Ambulatory Health Services (AAP, Total)	63.71%	$12.50 per compliant member	68.71%	$25 per compliant member	73.17%	$27 per compliant member
Follow-Up After Emergency Department Visit for Mental Illness (FUM 7 day)	37.06%	$37.50 per compliant member	42.06%	$75 per compliant member	47.67%	$85 per compliant member
Breast Cancer Screening (BCS-E)	44.19%	$10 per compliant member	49.19%	$20 per compliant member	NA	NA
Cervical Cancer Screening, Total	46.80%	$10 per compliant member	51.80%	$20 per compliant member	NA	NA
Hemoglobin A1c Control for Patients with Diabetes, HbA1c poor control (>9.0%)	50.02%	$10 per compliant member	45.02%	$20 per compliant member	NA	NA
Prenatal and Postpartum Care (PPC Prenatal)	78.36%	$10 per compliant member	83.36%	$20 per compliant member	NA	NA
Prenatal and Postpartum Care (PPC Postpartum)	66.25%	$10 per compliant member	71.25%	$20	NA	NA

*Performance above "Minimum Performance" but below "Target 1" would be bonused at 50% Target 1 incentive

Appendix B

HEDIS Metrics

HEDIS® Tips:

Adults' Access to Preventive/Ambulatory Health Services (AAP)

MEASURE DESCRIPTION

The percentage of members, 20 years of age and older, who had an ambulatory or preventive care visit during the measurement year.

CODES INCLUDED IN THE CURRENT HEDIS® MEASURE

Description	Code
Ambulatory Visits	**CPT®:** 99201-99205, 99211-99215, 99241-99245, 99341-99345, 99347-99350, 99381-99387, 99391-99397, 99401-99404, 99411, 99412, 99429, 99483 **HCPCS:** G0402, G0438, G0439, G0463, T1015 **UBREV:** 0510-0517, 0519-0523, 0526-0529, 0982, 0983 **ICD-10:** Z00.00, Z00.01, Z00.121, Z00.129, Z00.3, Z00.5, Z00.8, Z02.0-Z02.6, Z02.71, Z02.79,Z02.81-Z02.83, Z02.89, Z02.9, Z76.1, Z76.2
Other Ambulatory Visits	**CPT®:** 92002, 92004, 92012, 92014, 99304-99310, 99315, 99316, 99318, 99324-99328, 99334-99337 **HCPCS:** S0620, S0621 **UBREV:** 0524, 0525
Telephone Visits	**CPT®:** 98966, 98967, 98968, 99441, 99442, 99443
Telehealth Modifier	95, GT ***with*** **POS**: 02
Online Assessments (E-visits or Virtual Check-in)	**CPT®:** 98969-98972, 99421-99421-99423, 99444, 99457 **HCPCS:** G0071, G2010, G2012, G2061-G2063

HOW TO IMPROVE HEDIS® SCORES

- Use appropriate billing codes, as described above, to ensure accurate billing and coding.
- Document all elements of a preventive exam including health history, developmental history, physical exam and education/anticipatory guidance.
- Educate patients on the importance of having, at least one, ambulatory or preventive care visit during each calendar year.
- Contact patients on the needed services list who have not had a preventive or ambulatory health visit.
- Look into offering expanded office hours to increase access to care.
- Make reminder calls to patients who have appointments to decrease no-show rates.
- Schedule telehealth, telephone or online assessment appointments with patients to complete ambulatory or preventive care visits.

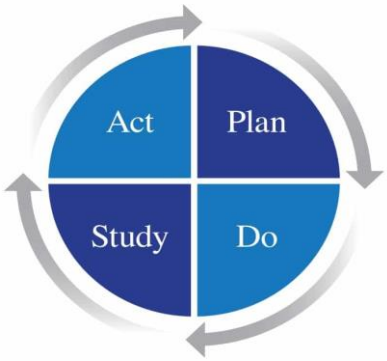
Updated 02/15/2022

MOLINA HEALTHCARE

Appendix C

Framework PDSA Model

Figure 2: Plan-Do-Study-Act (PDSA) Model



Source: W. Edwards Deming Institute, 2023

Appendix D

Permission From Site

Affiliation Agreement Statement:

Touro University Nevada does not require affiliation agreements for DNP Practicum Experiences. However, the project/practicum site may require an affiliation agreement with Touro. Please delegate this form to an appropriate project/practice site representative for completion.
Please fill in the blanks below and check the appropriate box:

The TUN DNP student: JENNIFER MORRIS is authorized to complete practicum hours at the above listed project site.

✓ An affiliation agreement is required for completion of this practicum experience.

_____ An affiliation agreement is not required for completion of this practicum experience.

*If an affiliation agreement is required, please insert the name and contact information of the person who will coordinate the agreement:

Name of representative: GREGORY SCHNEIDER

Contact Information and preferred contact method: EMAIL: gschneider@roseman.edu

Authorized Project Site Representative Signature: Gregory W Schneider

Student Signature: Jennifer Morris

Appendix E

Affiliation Agreement

This Agreement covers **all students** of TUN in the **marked program(s):**
- ☐ Osteopathic Medicine
- ☐ Physician Assistant
- X Nursing – APRN/FNP/DNP
- ☐ Occupational Therapy
- ☐ Physical Therapy

CLINICAL PRECEPTORSHIP AGREEMENT

This Agreement with Exhibit A is between **Roseman Medical Group, Las Vegas, Nevada** and **TOURO UNIVERSITY NEVADA**, Henderson, Nevada and has an EFFECTIVE DATE of **01 February 2023.**

RECITALS

A. Roseman Medical Group (RMG) is the medical practice of the Roseman University of Health Sciences.

B. Touro University Nevada's ("TUN") College of Health and Human Services offers graduate degrees for Nursing, APRN/FNP and Nurse Practitioner, Physician Assistant, Physical Therapist and Occupational Therapist. TUN desires its graduate students, as designated above and Exhibit(s) attached, to obtain practical clinical or fieldwork rotational experience through participation in a preceptorship program sponsored by RMG ("Program").

C. It is to the mutual benefit of the parties to this Agreement that TUN's designated graduate students have the privilege of RMG's facilities for their clinical or fieldwork preceptorship experience.

Now, therefore, the parties agree as follows:

1. GENERAL INFORMATION

A. The period of time for each student's clinical experience shall be agreed upon by both parties before the beginning of the training.

B. The maximum number of students to receive training shall be mutually agreed upon by the parties at least 30 days prior to beginning of training based upon the availability of space and other considerations.

2. TOURO UNIVERSITY NEVADA'S RESPONSIBILITIES

A. Student Profile. TUN shall complete and send to RMG a profile for each student enrolled in the Program which shall include the appropriate student contact information prior to the beginning date of the planned clinical experience. RMG shall use such information for its own purposes and shall not release the information to any third party.

B. Schedule of Assignments. TUN shall notify the clinical experience supervisor of its planned schedule of student assignments, including the name of the student, level of academic preparation and length and dates of planned clinical experience.

C. Program Coordinator. TUN shall designate a faculty member to coordinate with a designee of RMG in the planning of the program to be provided students.

D. Records. TUN shall maintain all personnel and academic records of the students.

E. Rules and Regulations. TUN shall enforce rules and regulations governing the students that are mutually agreed upon by TUN and RMG. TUN students will comply with all applicable RMG policies as well as Federal, state, and private regulatory requirements.

F. Student Responsibilities. TUN shall notify the students that they are responsible for:

1. Following the clinical and administrative policies, procedures, rules and regulations of RMG;
2. Arranging his/her own transportation and living arrangements when not provided by TUN;
3. Arranging for and assuming the cost of their own health insurance;
4. Assuming responsibility for personal illness, necessary immunizations or titers, tuberculin test, drug testing, background check, and annual health examination, if required by RMG;
5. Maintaining confidentiality of patient information. No student shall have access to or have the right to receive any medical record, except when necessary in the regular course of the clinical experience. The discussion, transmission or narration in any form by students of any patient information of a personal nature, medical or otherwise, obtaining in the regular course of the Program is forbidden except as a necessary part of the practical experience.
6. Following dress and hygiene code of the facility and wearing name badges identifying themselves as students.
7. Attending required orientation of RMG facilities.
8. Specific rules and regulations developed by TUN to govern student activities during assignment to a training RMG. (See Exhibit A.)

G. Payroll Taxes and Withholdings. TUN shall be solely responsible for any payroll taxes, withholdings, workers' compensation and any other insurance or benefits of any kind for employees and agents of TUN providing services under this Agreement. TUN shall defend, indemnify, and hold RMG harmless from all liability and responsibilities therefrom.

H. Student Insurance. TUN shall provide RMG with a certificate of insurance or other written confirmation that each student participating in this program is covered by health insurance and professional liability insurance.

I. TUN will ensure that each Participating Student furnishes to RMG prior to each non-consecutive Rotation a complete copy of the following health records (Participating Students will not be allowed to access the Facility until all records are provided):

1. Tuberculin skin test performed within the past twelve (12) months or documentation as a previous positive reactor;
2. Proof of Rubella and Rubeola immunity by positive antibody titers or two (2) doses of MMR;
3. Proof of Varicella immunity, by positive history of chickenpox or Varicella immunization;
4. Proof of Influenza vaccination during the flu season, October 1 to March 31, (or dates defined by CDC), or a signed Declination Form; and
5. Proof of Hepatitis B immunization or declination of vaccine, if patient contact is anticipated.
6. Proof of completed COVID-19 vaccine or exemption for medical and/or religious reasons. See CDC guideline for healthcare workers.

J. **Background Check**
TUN will ensure that each participating student obtains prior to each non-consecutive Rotation a background check acceptable to RMG, including, at a minimum, the following:

1. Criminal Search (7 years or up to 5 criminal searches);
2. Violent Sex Offender and Predator Registry Search;
3. HHS/OIG List of Excluded Individuals;
4. GSA List of Parties Excluded from Federal Programs;
5. U.S. Treasury, Office of Foreign Assets Control (OFAC), List of Specially Designated Nationals (SDN); and
6. Applicable State Exclusion List, if available.

TUN shall provide to RMG an Attestation of Satisfactory Background Investigation of each student prior to each non-consecutive Rotation. If the background check discloses adverse information about a Participating Student, TUN shall immediately remove the student from the Clinical Program. TUN further agrees to an annual compliance audit of background checks, if requested by RMG and approved by any student pursuant to the Fair Credit Reporting Act (FCRA).

K. **Drug Testing**
TUN will ensure that each student obtains prior to each non-consecutive Rotation a drug test acceptable to RMG, including, at a minimum, the following:

1. Substances tested prior to placement at RMG must at a minimum include amphetamines, barbiturates, benzodiazepines, opiates, fentanyl analogues, methadone, marijuana, meperidine, and cocaine.

2. A student may be required to undergo additional drug and alcohol testing upon reasonable suspicion that the student has violated RMG policies, and after any incident that involves injury or property damage.

TUN or student shall bear the cost of any such tests. Should the testing disclose adverse information as to any student, RMG shall have no obligation to accept the student. To the extent that any student violates the policy for drug or alcohol abuse after placement at RMG, or refuses to cooperate with the requirement for a search or reasonable suspicion and reportable accident testing, then RMG may immediately remove the student from participation in the Program at RMG.

3. ROSEMAN MEDICAL GROUP'S RESPONSIBILITIES

A. Clinical Experience. RMG shall accept from TUN the mutually agreed upon number of students enrolled in the aforementioned Program and shall provide said students with supervised clinical experience.

B. RMG Designee. RMG shall designate a member of RMG'S Staff to participate with the designee of TUN in planning, implementing, and coordinating the training Program.

C. Access to Facilities. RMG shall permit students enrolled in the Program access to RMG facilities as appropriate and necessary for their Program, provided that the presence of the students shall not interfere with the activities of RMG.

D. Withdrawal of Students. RMG may request TUN to withdraw from RMG any student who RMG determines is not performing satisfactorily, or who refuses to follow RMG's administrative policies, procedures, rules, and regulations. Such request must be in writing and must include a statement as to the reason or reasons why RMG desires to have the student withdrawn. Said request shall be complied with within five (5) days of receipt of same, except RMG shall at its sole discretion withdraw any student immediately whose behavior or action jeopardizes patient safety or safety of others.

E. Emergency Health Care First Aid. RMG shall, on any day when student is receiving training at its Facilities, provide to students necessary emergency health care or first aid for accidents occurring in its Facilities, at student or TUN expense. Except as provided regarding such emergencies, RMG shall have no obligation to furnish medical or surgical care to any student.

4. AFFIRMATIVE ACTION AND NON-DISCRIMINATION

The parties agree that all students receiving clinical training pursuant to this Agreement shall be selected without discrimination on account of race, color, religion, national origin, ancestry, disability, marital status, gender, sexual orientation, age, or veteran status.

5. STATUS OF TOURO UNIVERSITY NEVADA AND ROSEMAN MEDICAL GROUP

It is expressly agreed and understood by TUN and RMG that students under this Program are in attendance for educational purposes, and such students are not considered employees of RMG for any purpose, including but not limited to compensation of services, employee welfare and pension benefits, or workers' compensation insurance.

6. INDEMNIFICATION

A. TUN agrees to indemnify, defend and hold harmless, RMG and its affiliates, its directors, trustees, officers, agents, and employees against all claims, demands, damages, costs, expenses of whatever nature, including court costs and attorney fees arising out of or resulting from the negligence of TUN or its students.

B. RMG agrees to indemnify, defend and hold harmless, TUN and its officers, agents, employees against any and all claims, demands, damages, costs, expenses of whatever nature, including court costs and attorney fees arising out of or resulting from the negligence of RMG.

7. INSURANCE

TUN shall procure and maintain in force during the term of this Agreement, at its sole cost and expense, insurance in amounts that are reasonably necessary to protect it and RMG against liability arising from or incident to the use and operation of RMG by TUN's students. Coverage under such insurance shall not be less than One Million Dollars ($1,000,000) for each occurrence and Three Million Dollars ($3,000,000) aggregate each for professional liability insurance and comprehensive general liability insurance. If such coverage is provided on a claims-made basis, then such insurance shall continue throughout the Term of this Agreement. In the event that such insurance is terminated, TUN shall purchase tail coverage for a period of three years after the termination of such insurance (said tail coverage shall be in amounts and type equivalent to the claims-made coverage). TUN shall, at its expense, obtain and maintain for the term workers' compensation insurance and unemployment insurance for the program participants. TUN shall provide RMG with a certificate of insurance evidencing the insurance coverage required under this Paragraph. TUN shall notify RMG at least thirty days in advance of any cancellation, reduction, or other material change in the amount or scope of any coverage required hereunder.

8. TERM AND TERMINATION

A. Term. This agreement shall be effective as of the date specified above and shall remain in effect for **three (3) years** thereafter: **1 Feb 2023 through 31 Jan 2026.**

B. Renewal. This agreement shall automatically renew for subsequent **one (1) year** terms, the terms and conditions of the agreement remaining the same.

C. Termination.

1. Mutual Agreement. This Agreement may be terminated at any time upon the written concurrence of the parties.

2. Without Cause. This Agreement may be terminated without cause with thirty (30) days advance written notice by either party. Such termination shall not take effect, however, with regard to students already at RMG until such time as those students have completed their training at RMG.

9. GENERAL PROVISIONS

A. Amendments. This Agreement may be amended at any time by mutual agreement of the parties without additional consideration, provided that before any amendment shall become effective, it shall be reduced to writing and signed by the parties. Notwithstanding the foregoing, should any provision of this Agreement be in conflict with a governing State or federal law, that provision shall be deemed null and void to the degree it conflicts with State or federal law.

B. Assignment. Neither party shall voluntarily or by operation of law, assign or otherwise transfer this Agreement without the other party's prior written consent. Any purported assignment in violation of this Section shall be null and void.

C. Attorney's Fees. In the event that any action, including arbitration, is brought by either party to enforce or interpret the terms of this Agreement, the prevailing party in such action shall be entitled to its costs and reasonable attorney's fees, in addition to such other relief as the court or arbitrator may deem appropriate.

D. Captions. Any captions to or headings of the articles, sections, subsections, paragraphs, or subparagraphs of this Agreement are solely for the convenience of the parties, are not a part of this Agreement, and shall not be used for interpretation or determination of validity of this Agreement or any provision hereof.

E. Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be deemed an original, but all such counterparts together shall constitute one and the same instrument.

F. Entire Agreement. This Agreement, including all attachments, is the entire Agreement between the parties and no other agreements, oral or written, have been entered into with respect to the subject matter of the Agreement.

G. Force Majeure. Neither party shall be liable nor deemed to be in default for any delay or failure in performance under this Agreement or other interruption of service or employment deemed resulting, directly, or indirectly, from acts of God, civil or military authority, acts of public enemy, war, accidents, fires, explosions, earthquakes, floods,

pandemic, failure of transportation, machinery or supplies, vandalism, strikes or other work interruptions beyond the reasonable control of either party.

H. Governing Law. The validity, interpretation and performance of this Agreement shall be governed by and construed in accordance with the laws of the State of Nevada. The venue for hearing any disputes regarding this contract shall be Clark County, Nevada.

I. Notices. Notices required under this Agreement shall be sent to the parties by certified or registered mail, return receipt requested, postage prepaid, as the addresses set forth below: The date of personal delivery or mailing as stated above of such notice shall be deemed to be the date of such notice.

TO TOURO UNIVERSITY NEVADA:

Touro University Nevada
874 American Pacific Drive
Henderson, Nevada 89014
Attention: Provost

TO ROSEMAN MEDICAL GROUP

(1) Gregory Schneider, MD
Roseman Medical Group
5380 South Rainbow Boulevard
Suite 120
Las Vegas, NV 89118
Attn: Medical Director_____

Copy to: (2) Pedro "Joe" Greer, MD
Roseman Medical Group
5380 South Rainbow Boulevard
Suite 120
Las Vegas, NV 89118
Attn: Manager_____

J. Remedies. The various right, options, elections, powers, and remedies of the respective parties hereto contained in, granted, or reserved by this Agreement, are in addition to any others that said parties may be entitled to be law, shall be construed as cumulative, and no one of them is exclusive of any of the others, or of any right or priority allowed by law.

K. Severability. The provisions of this Agreement shall be deemed severable and if any portion shall be held invalid, illegal or unenforceable for any reason, the remainder of this Agreement shall be effective and binding upon the parties.

L. Waiver. Any waiver of any terms and conditions hereof must be in writing and signed by the parties hereto. A waiver of any term or condition hereof shall not be construed as a future waiver of the same or any other term or condition hereof.

M. Excluded Status. The parties represent and warrant they, including students, are not listed by a federal agency as excluded, debarred, suspended or otherwise ineligible to participate in federal programs, including Medicare and Medicaid, and are not listed, nor have any current reason to believe that during the term of this Agreement will be so listed, on the HHS-OIG Cumulative Sanctions Report or the General Services Administration List of Parties Excluded from Federal Procurement and Non-Procurement Programs. The Parties agree that either may terminate this Agreement, upon notice to the other, in the event that either party is listed on the HHS-OIG Cumulative Sanctions Report or on the General Services Administration List of Parties Excluded from Federal Procurement and Non-Procurement Programs.

N. Confidentiality. All information obtained by TUN or RMG ("the parties") in the performance of this Agreement not in the public domain shall be considered confidential. The parties agree to prevent information and data which it or its employees, students or agents obtained concerning the work, the work site, or any property, plans or operations, from being disclosed to others without the prior written consent. The parties will use the information solely for performance of the work and for no other purpose. The parties acknowledge that the use or disclosure of confidential information, in any manner inconsistent with this Agreement, may result in irreparable and continuing damage and shall have the right to seek legal and equitable relief, including injunctive relief, without the necessity of posting bond or other security necessary to protect against any such breach or threatened breach, including, without limitation, injunctive relief. This Section shall survive any termination of this Agreement.

O. HIPAA Regulation.

TUN and RMG agree to comply with the Health Insurance Portability and Accountability Act of 1996, as codified at 42 U.S.C. 1320d ("**HIPAA**") and any current and future regulations promulgated thereunder, including, without limitation, the federal privacy regulations contained in 45 C.F.R. Parts 160 and 164 ("**Federal Privacy Regulations**"), the federal security standards contained in 45 C.F.R. Part 142 ("**Federal Security Regulations**") and the federal standards for electronic transactions contained in 45 C.F.R. Parts 160 and 162, all collectively referred to herein as "**HIPAA Requirements**." The parties agree not to use or further disclose Protected Health Information (as defined in 45 C.F.R. Section 164.501) or Individually Identifiable Health Information (as defined in 42 U.S.C. Section 1320d, other than as permitted by the HIPAA Requirements and the terms of this Agreement. The parties agree to make their internal practices, books, and records relating to the use and disclosure of Protected Health Information available to the Secretary of Health and Human Services to the extent required for determining compliance with the Federal Privacy Regulations. In addition the parties agree to comply with any state laws and regulations that govern or pertain to the confidentiality, privacy, security of, and electronic and transaction code sets pertaining to, information related to patients. The

parties hereby acknowledge that the services being provided pursuant to this Agreement are not intended to create a "Business Associate" relationship as that term is defined in 45 CFR § 160.103.

TUN shall instruct its Students on the importance of and their responsibility for respecting the confidential and privileged nature of all information which may come to their attention about patients and records of RMG and the Facilities. The instruction shall include content related to the Health Insurance Portability and Accountability Act, Public Law 104-191 ("HIPAA"). TUN shall direct its Students to comply with RMG's policies and procedures governing the use and disclosure of individually identifiable health information under HIPAA. Solely for the purpose of defining the Student's role in relation to the use and disclosure of RMG's protected health information, the Students are considered members of RMG's workforce, as that term is defined under HIPAA, when engaged in activities pursuant to this Agreement. In addition, TUN agrees that a Student's breach of RMG's policies concerning confidentiality shall be grounds for RMG at its sole discretion to remove the student from RMG's Facilities.

Each party shall notify the other of any incident or claim it may reasonably be anticipated to develop into a legal action, as soon as possible, if such incident or claim pertains to this Agreement. Notice will be provided forthwith in the event that such a claim, lawsuit or other legal or administrative proceeding is commenced incident to which indemnification may be sought as set forth in this Agreement.

TUN or Student must inform RMG within forty-eight (48) hours if TUN or Student is in violation of HIPAA regulations.

P. The parties agree that there is no Third-Party beneficiary to this agreement.

Q. Both TUN and RMG agree that they are independent contractors. Therefore, neither of them is an agent, representative or partner of the other.

10. EXECUTION

The signatories below warrant they have authority to bind their entity in contract. This contract applies to core and non-core clinical experiences.

ROSEMAN MEDICAL GROUP

Date: 01/17/2023 | 11:05 AM PST (1) By: DocuSigned by: Gregory W. Schneider 60909CB9F36841F...

Print Name: Gregory W. Schneider, MD
Title: Medical Director, Roseman Medical Group

Date: 01/17/2023 | 11:10 AM PST (2) By: DocuSigned by: Pedro "Joe" Greer, Jr.

Print Name: Pedro "Joe" Greer, MD
Title: Manager, Roseman Medical Group

TOURO UNIVERSITY NEVADA

Date: 01/18/2022 By:

Robert Askey, Ed.D.,
Dean, College of Health and Human Services

Date: 01/182022 By:

Andrew Priest, Ed.D., PT
Campus President and Provost

EXHIBIT A

CLINICAL EXPERIENCES AND/OR PRECEPTORSHIP AGREEMENT FOR COLLEGE OF HEALTH AND HUMAN SERVICES

NURSING, APRN, FNP and DNP STUDENTS

SPECIFIC REGULATIONS AND PROCEDURES

The study and training of each student during assignment to a training institution shall be governed by the following regulations:

1. Students shall be supervised by a licensed physician (D.O. or M.D.) or a licensed nurse practitioner.

2. Students will be directly or indirectly supervised by TUN SON clinical supervising faculty during their clinical practical.

3. Students shall assume responsibility for and perform their assigned duties in accordance with the training institution regulations and under the supervision of their preceptor.

4. Students shall not be permitted to accept financial compensation or any form of gratuity for rendering patient care.

5. Students may be assigned to specific patients. History and physical examination should be completed on those patients whom the student will be following on the service to which they are assigned. Students may perform chart review, round on patients and accompany the preceptor on conferences and consultations when appropriate.

6. Histories and physicals may be signed by the student according to the rules and regulations of the training institution. The histories and physicals done by the students should be reviewed by the preceptor and be reviewed periodically by the preceptor and student. Student's histories and physicals should be countersigned by the preceptor.

7. Progress notes and SOAP models may be written by the students only under the direct supervision of the preceptor. Progress notes must be countersigned within the time required by the rules and regulations of the training institution.

8. Students shall not order any examinations, tests, medications or procedures. Students shall not write prescriptions for medicine, devices, or anything requiring the authority of a physician, or nurse practitioner.

9. Student attendance is required for all scheduled days at the facility. When deemed appropriate by the preceptor, the student should attend educational opportunities available at the facility.

10. Students shall learn and perform procedures under appropriate and proper supervision in those areas where the training institution regulations permit such instruction.

11. Every effort should be made to counsel and assist those students having difficulty in a particular facility. The facility has the right to dismiss the student, in collaboration with the TUN School of Nursing program or clinical coordinator, when it has been determined that the student does not meet the educational expectations of the facility.

12. Students are to conduct themselves in a courteous and professional manner and shall follow the dress code of the training institution and of TUN at all times.

13. Students must provide health insurance for themselves while on assignment at the institution. Institution rules and regulations, state and federal, shall apply to any health insurance requirements.

14. Students will provide the clinical agency with evidence of immunization history, professional liability insurance, BLS certification, completed OSHA and HIPAA training, drug screening, and provide a background check consistent with TUN policy.

15. The institution shall not use the student as a substitute for clinical or administrative staff.

MALPRACTICE INSURANCE

All students in approved clinical rotations are covered by the professional liability insurance of TUN.

ROLES AND RESPONSIBILITIES

RMG's Responsibilities

1. Identify qualified preceptors prepared as a licensed physician, or a licensed nurse practitioner with a minimum of 1 year of clinical experience.

2. Orient students to the practice/site, environment and policies as per facility policy.

3. Provide each student with the clinical experiences necessary to meet his/her learning objectives.

4. Participate in evaluation of overall clinical experience.

5. Allow site visits by clinical supervising faculty and/or program coordinator at least once per practicum. Generally, this will be performed during weeks 5-8 of the TUN SON Trimester. Will allow additional remediation site visit, if necessary.

Student's Responsibilities

1. Analyze and determine what the student wants to gain from the experience; elaborate and prioritize specific learning objectives to meet specific needs (with guidance from faculty and preceptor).
2. With preceptor, discuss reciprocal expectations and devise a tentative schedule of activities to meet the learning objectives.
3. Seek supervision and feedback from preceptor on an on-going basis.
4. Submit SOAP notes as directed by course syllabi.
5. Maintain a daily case log.
6. Perform within the administrative framework of the agency.
7. Achieve clinical objectives.
8. Inform clinical supervising faculty, preceptor and agency immediately if unable to meet commitments due to illness or other reasons; ill days will be made up.
9. Provide clinical coordinator with current documentation required to attend clinical practica.
10. Inform preceptor and clinical supervising faculty of any problems that arise during the placement in a timely manner.
11. Conduct self-evaluations according to the clinical objectives.
12. Maintain communication with clinical supervising faculty, preceptor and agency personnel to ensure continuity of care.
13. Participate in synchronous and asynchronous activities as outlined in the course syllabi.
14. Conduct evaluation of the preceptor and the clinical practice site.

TUN's Faculty's Responsibilities

1. Select learning facilities that can provide positive learning experiences.
2. Assist agency to identify qualified preceptors using established criteria.
3. In collaboration with agency, determine where students will be placed.
4. Initiate contact and maintain communication with the preceptor to clarify student, instructor and agency roles, learning objectives, etc., throughout the trimester.

5. Provide agency and preceptor with a copy of the practicum handbook, course description, learning objectives, dates of beginning and ending of the experience, and the number of hours required.

6. Facilitate and monitor total practicum experience.

7. Be available for consultation with preceptors, agencies and students.

8. Approve student's specific learning objectives.

9. Provide individual supervision of students to assist in meeting learning objectives on a regularly scheduled basis.

10. Evaluate students according to learning objectives, in collaboration with agency preceptor, using evaluation form provided by the course.

11. Visit each clinical site on a periodic basis.

12. Conduct evaluation conferences with preceptors and/or students at the end of the trimester if indicated.

13. Conduct seminars for students on a regularly scheduled basis.

14. Plan and conduct preceptor seminars as appropriate for the continued education of the preceptors.

15. Review student's daily case log entries and SOAP notes weekly to provide feedback to student (may vary depending on amount of time spent in clinical during week).

16. Document that each student is covered by professional malpractice insurance and other documentation required for the practicum experience.

17. Determine student's grade for the practicum experience.

18. Participate in joint conferences with preceptor and student as scheduled.

RMG Preceptor's Responsibilities

1. Serve as clinical expert, role model and direct supervisor of student. Supervise, demonstrate, teach and observe the student while delegating increasing levels of responsibility.

2. Help the student to proficiently and effectively communicate with patients, obtain histories, perform physical exams, succinctly record and report findings, ascertain information and assess and create plans appropriate to the patient.

3. Provide the student with ongoing and timely feedback regarding their progression.

4. With student, jointly plan and arrange activities to meet the learning objectives.

5. Encourage student to be self-directed.

6. Share experiences and knowledge to develop student's abilities and confidence.

7. Allow students to provide direct patient care in order to meet objectives.

8. Allow site visits by Clinical Supervising Faculty and/or FNP Coordinator at least once per practicum. Generally, this will be performed during weeks 5-8 of the Trimester. Will allow additional remediation site visit, if necessary.

9. Participate in the site visits made by the instructor.

10. Inform the instructor immediately of any problems arising in regards to the student's placement or progression. Communicate with supervising clinical faculty to maintain open communication and transparency regarding the student's clinical experience.

11. Participate in online student evaluations; verify case logs and clinical hours in a timely manner.

FACULTY AND STUDENT ORIENTATION PLAN

It will be the program's responsibility under the terms of the formal contractual agreement to provide for/facilitate orientation of student and, if necessary, faculty assigned to the agency. Orientation will be collaboratively developed with agency representative and within the context of the roles and responsibilities delineated above. Faculty and students will be oriented prior to commencement of clinical practicum for a given semester.

SECURITY AND SAFETY

1. Student shall be responsible for knowing and following all school and facility rules, regulations, policies, procedures, precautions and directions to mitigate exposure to infectious and environmental hazards; observe all appropriate precautions, including, but not limited to, wearing proper protective clothing and gloves; immediately report any such exposure; and take immediate action to mitigate any such exposure by following appropriate clean-up, disposal, diagnostic and treatment protocols.

2. Student shall be responsible for knowing and utilizing all school and facility resources for mental health and wellness and fatigue mitigation.

3. Student shall immediately report to appropriate school, facility and/or law enforcement authorities any actual or perceived personal or institutional security compromise or threat and shall be responsible for knowing and following all school and facility rules,

regulations, policies, procedures and precautions for personal and institutional safety in all situations, including, but not limited to, active shooter, lockdown and shelter in place protocols and evacuation situations and routes for safe building exit.

4. School, all approved clinical rotation sites and any approved site where instruction occurs will provide student with all necessary security and safety information to take appropriate action(s) to prevent or mitigate any potentially adverse situation or consequences to student, faculty, school, institution or others who may be exposed, impacted or endangered.

Appendix F

Mobile Text Messages Sent to Patients

ROSEMAN MEDICAL GROUP

Mobile Text Messages

Message to Schedule AWV Appointment

Hello. This is a message from Roseman Medical Group welcoming you to schedule your Annual Wellness Visit today.

An appointment time is available for you. Please call (702) 463-4040 to schedule.

Take an active role in your personal health!

Text and data rates apply. Reply stop to opt-out at any time.

Appointment Reminder

ROSEMAN MEDICAL: Hello. This is a reminder that you have an upcoming Annual Wellness Exam scheduled for tomorrow at Roseman Medical Group.

*Please reply **C** to confirm or call (702) 463-4040 to reschedule.*

Appendix G

Educational Pamphlet

WHY PREVENTATIVE CARE

- In the U.S. 18% of the gross domestic product (GDP) is devoted to healthcare spending & projected to reach 20% by 2025
- Despite this large amount of spending, the U.S. continues to perform lower on healthcare performance dimensions (quality, access, efficiency, equity, & healthy lives) as compared to similarly developed countries (such as Canada, Australia, U.K.),
- The burden of disease on the U.S. population continues to increase with 45% suffering from at least one chronic condition
- Chronic diseases are the leading contributors to the nation's $4.1 trillion in annual healthcare costs
- 33% of U.S. adults went without recommended care such as preventative health screenings
- Only 8% of adults, 35 years of age and older, reported receiving all the recommended preventative healthcare services
- The U.S. must establish a healthcare system that focuses on a culture of wellness and not *sick care*

It's never too early or too late to work towards being the healthiest you.

PROJECT AIM & OBJECTIVES

This DNP quality improvement project aims to increase the number of adult annual wellness visits with the goal of providing age-specific preventative healthcare recommendations as supported by HEDIS metrics and USPSTF recommendations.

Project Objectives

Within the timeframe, project seeks to achieve the following objectives:

1. Research, plan, implement and evaluate the use of mobile text messaging reminder/recall system to increase patient scheduling and completion of annual wellness visits.
2. Administer an educational seminar for the medical staff to train on preventative care and project implementation of sending mobile text messages to increase the scheduling and completion of adult annual wellness visits.
3. Create an educational tool to improve provider compliance to align with national standards for care pertaining to adult annual wellness visits and preventative healthcare recommendations.
4. Increase the number of adult patients who schedule and complete annual wellness visits by at least 5%

Staff Roles

MAs – Schedule AWV within the 5-week implementation period when clients call in after receiving AWV text message

NPs – Provide AWV per educational tool and national recommendations.

Medical Director – Help project lead with EHR reports and chart audits

Practice Administrator – Help project lead with EHR reports and chart audits.

Project Lead

Jennifer Morris
317-331-0602 (cell)
jmorris10@touro.student.edu
jmorris@roseman.edu

Implementing A Mobile Text Messaging System To Increase Annual Wellness Visits In A Primary Care Clinic

Introduction	
Project Site	Roseman Medical Group
Project Mentor	Dr. Barb Tanner, DNP, MSN, RNC-OB
Project Purpose	The problem of interest for this Doctor of Nursing Practice (DNP) project is that there is not an established reminder system in place to prompt adults at a primary care clinic located in Las Vegas, Nevada to schedule and complete their annual wellness visit (AWV). This project will attempt to address this issue by researching, planning, implementing, and evaluating the use of a mobile text messaging reminder system to increase patient scheduling and completion of annual wellness visits.
Project Question	Will the use of a patient appointment reminder/recall system via mobile text messaging increase the percentage of patients scheduling and completing annual wellness visits in a primary care clinic?

Project Timeline

Week 1 7/5/23 – 7/11/23	• **Educational presentation to providers and clinical staff, questions related to project implementation answered.** • **Mobile text messages sent to patients that meet inclusion criteria on Monday and Tuesday of week 1 of the implementation period.** • **AWV educational tool supplied to advanced practice providers** • **MAs and Front Office Manager begin scheduling AWV**
Week 2 7/12/23 – 7/18/23	• Provider use of AWV tool implementation continues • MAs and Front Office Manager continue to schedule AWV
Week 3 7/19/23 – 7/25/23	• Continuation of implementation activities • Begin to analyze EHR summary reports using EHR chart auditing tool 2 weeks after mobile text messaging implementation has begun.
Week 4 7/26/23 – 8/1/23	• Analysis of EHR summary reports using EHR chart auditing tool three weeks after mobile text messaging implementation has begun. • Continuation of implementation and data analysis
Week 5 8/2/23 – 8/8/23	• Continuation of implementation and data analysis. • Implementation period complete • Chart audits all complete by the end of week 5 of the implementation period.

Appendix H

Provider Annual Wellness Visit Tool

ROSEMAN MEDICAL GROUP

Annual Wellness Visit (AWV) Tool

ICD-10 Codes

Z00.00	Age 15-124
Z00.01	Age 15-124
Z00.121	Age 0-17
Z00.129	Age 0-17
Z02.0	Student Health Exam
Z02.1	Pre-employment Exam
Z02.2	Exam for admission to Residential Home or Prison
Z02.5	Sports Physical
Z02.83	Exam for Drugs and Alcohol/Drug Test

Cancer Screening

1) **Colon cancer screening** from ages 45-75: stool test yearly or colonoscopy every 10 years. If family history of colon cancer, consider a colonoscopy every 5 years.
2) **Mammogram** for women every 1-2 years for women ages 50-74, per the United States Preventive Services Task Force. Screening may be considered for women ages 40-50. The American Cancer Society recommends screening every 1-2 years for women ages 45-75.
3) Adults aged 50 to 80 years who have a 20-pack-year smoking history and currently smoke or have quit within the past 15 years, consider **annual low-dose CT scans**.
4) In men, **routine screening for prostate cancer is not recommended,** but a conversation about screening with a PSA test for men ages 50-75 should be considered.

Cardiovascular Disease and Stroke Prevention

1) **Diet and exercise.** Provide advice for healthy eating, including eating more vegetables, fiber, whole grains, and plant-based oils like olive oil. Eat fewer animal-based fats and sugary foods and drinks. Consider referral to a dietician for patients with chronic illnesses like hypertension and diabetes. Limit alcohol to 1 drink/day for women and 1-2 drinks/day for men. Recommend 150 minutes of moderate exercise weekly; a combination of cardio and strength training is preferred.
2) The USPSTF recommends **1-time screening for abdominal aortic aneurysm (AAA)** with ultrasonography in men aged 65 to 75 years who have ever smoked.
3) **Be careful with any recommendations for daily aspirin use.** The decision to initiate low-dose aspirin use for the primary prevention of CVD in adults aged 40 to 59 years who have a 10% or greater 10-year CVD risk should be an individual one. Evidence indicates that the net benefit of aspirin use in this group is small. Persons who are not at increased risk for bleeding and are willing to take low-dose aspirin daily are more likely to benefit. The USPSTF recommends against initiating low-dose aspirin use for the primary prevention of CVD in adults 60 years or older.

Immunizations

1) **Influenza vaccine** is recommended every fall or winter for all patients ages 6 months and older.
2) Discuss **COVID vaccines** annually.
3) Pneumonia vaccine. For all adults 65 and older, provide one PCV-20 (Prevnar 20) or PCV 15 followed by PPSV 23 one year later. All adults with chronic heart/lung/liver conditions, uncontrolled diabetes, smoking, alcoholism, or immunocompromised state should receive the same one-time or series as described above. (For individuals who have received PPSV 23, offer PCV 20 or PCV 15 one year later).
4) **Tetanus/Diphtheria/Pertussis**. Offer Td or Tdap once every ten years.
5) HPV vaccination recommended for all persons through age 26 years: 2- or 3-dose series depending on age at initial vaccination or condition:
    a. Age 15 years or older at initial vaccination: 3-dose series at 0, 1–2 months, 6 months (minimum intervals: dose 1 to dose 2: 4 weeks/dose 2 to dose 3: 12 weeks/dose 1 to dose 3: 5 months; repeat dose if administered too soon)
    b. Age 9–14 years at initial vaccination and received 1 dose or 2 doses less than 5 months apart: 1 additional dose.
    c. Age 9–14 years at initial vaccination and received 2 doses at least 5 months apart: HPV vaccination series complete, no additional dose needed.
6) **MMR**, one dose, recommended for adults ages 19-65, if born in 1957 or later and no evidence of immunity.

Miscellaneous USPSTF A-Level Recommendations

1) The USPSTF recommends **screening for syphilis infection** in asymptomatic, nonpregnant adolescents and adults who are at increased risk for infection.
2) The USPSTF recommends **screening for hypertension** in adults 18 years or older with office blood pressure measurement (OBPM). The USPSTF recommends obtaining blood pressure measurements outside of the clinical setting for diagnostic confirmation before starting treatment.
3) The USPSTF recommends that clinicians **ask all adults about tobacco use**, advise them to stop using tobacco, and provide behavioral interventions and US Food and Drug Administration (FDA)--approved pharmacotherapy for cessation to nonpregnant adults who use tobacco.
4) The USPSTF recommends that clinicians **screen at least once for HIV infection** in adolescents and adults aged 15 to 65 years. Younger adolescents and older adults who are at increased risk of infection should also be screened.
5) The USPSTF recommends that all women who are planning or capable of pregnancy take a daily supplement containing 0.4 to 0.8 mg (400 to 800 µg) of **folic acid.**

National Committee for Quality Assurance. (2022). *Using HEDIS measure specifications.* https://www.ncqa.org/hedis/using-hedis-measures/

U.S. Preventive Services Task Force. (2022). *Published recommendations.* https://www.uspreventiveservicestaskforce.org/uspstf/topic_search_results?topic_status=P

Appendix I

Chart Auditing Tool

ROSEMAN MEDICAL GROUP

AWV Chart Auditing Tool

Patient #	Gender	Age	Date AWV Message Sent	Scheduled AWV (Yes/No)	Completed AWV (Yes/No)	Rescheduled For after Implementation

Appendix J

Project Timeline

Week 1 **7/5/23 – 7/11/23**	• **Educational presentation to providers and clinical staff, questions related to project implementation answered.** • **Mobile text messages sent to patients that meet inclusion criteria on Monday and Tuesday of week 1 of implementation period.** • **AWV educational tool supplied to advanced practice providers** • **MAs and Front Office Manager begin scheduling AWV**
Week 2 **7/12/23 – 7/18/23**	• Provider use of AWV tool implementation continues • MAs and Front Office Manager continue to schedule AWV
Week 3 **7/19/23 – 7/25/23**	• Continuation of implementation activities • Begin to analyze EHR summary reports using EHR chart auditing tool 2 weeks after mobile text messaging implementation has begun.
Week 4 **7/26/23 – 8/1/23**	• Analysis of EHR summary reports using EHR chart auditing tool three weeks after mobile text messaging implementation has begun. • Continuation of implementation and data analysis
Week 5 **8/2/23 – 8/8/23**	• Continuation of implementation and data analysis. • Implementation period complete • Chart audits all complete by the end of week 5 of the implementation period.