A QUALITY IMPROVEMENT PROJECT TO INCREASE MEDICARE ANNUAL WELLNESS VISITS IN A PRIMARY CARE CLINIC

by

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As members of the DNP Project Committee, we certify that we have read the DNP project prepared by Clare Hedrick Pinder, titled A Quality Improvement Project to Increase Medicare Annual Wellness Visits in a Primary Care Clinic and recommend that it be accepted as fulfilling the DNP project requirement for the Degree of Doctor of Nursing Practice.

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Final approval and acceptance of this DNP project is contingent upon the candidate’s submission of the final copies of the DNP project to the Graduate College.

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DEDICATION

This manuscript is dedicated to my husband, Adam, and my parents, Howard and Antonia. Adam, you have been a constant source of support, encouragement, humor, and love throughout my graduate program. I could not have made it through this program without you and everything you do for us. Thank you. Mom and Dad, you have been my biggest supporters in everything that I do. You’ve given me strength and taught me determination and perseverance, all of which allowed me to reach this point in my education. Thank you.
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ABSTRACT

INTRODUCTION: This Doctor of Nursing Practice Project is a quality improvement project for a single-site primary care clinic in Tucson, Arizona. It was noticed that Medicare beneficiaries were not consistently participating in Medicare annual wellness visits. The causes were multifactorial, but for the purpose of this project, the focus for a solution became the knowledge level of providers at the clinic. The term providers includes physicians and nurse practitioners. A literature review was conducted to determine the benefits of annual wellness visits, how they may be implemented, and how to best educate providers. Using recent findings in the literature, a web-based module was developed with the intention of educating providers about Medicare annual wellness visits.

METHODS: Along with an informed disclosure, pretest, and posttest, the education module was implemented using Qualtrics over a two-week period in August. The education module was emailed from the office manager to all seven providers at the primary care clinic. Three providers chose to participate in the project (N=3).

RESULTS: The results comparing the responses on the pretest and posttest show that providers gained knowledge by reading the web-based education module. Providers also self-reported and increased intent in encouraging patients to schedule wellness visits. Limitations include the small sample size.

CONCLUSIONS: Participants demonstrated an increase in knowledge gained about Medicare annual wellness visits as evidence by aggregated data. Participants also reported an increase intent to encourage patients to schedule wellness visits, which will potentially lead to a larger source of revenue for the clinical site of implementation.
INTRODUCTION

Preventive healthcare is generally recommended and recognized to improve healthcare, reduce costs, and prevent illness. Preventive healthcare includes check-ups, screenings, and counseling to “protect, promote, and maintain health and well-being and to prevent disease, disability, and death” (American College of Preventive Medicine, 2019). Healthcare focused on prevention is critical to detecting disease in early stages and keeping those who already have disease from becoming more ill (Baron et al., 2010). Preventive healthcare is so highly valued that many companies offer incentives for beneficiaries to maintain good health and participation in programs directed at exercise, nutrition, and smoking-cessation (Maron & Sandhu, 2017). Medicare, the largest healthcare payer in the country, offers several preventive care programs, one of which being the Medicare annual wellness visit (Centers for Medicare and Medicaid Services [CMS], 2018a). These visits are an underutilized benefit available to all people who have Medicare and are comprised of screenings, health risk assessments, and personalized prevention plans (CMS, 2018a). Preventive healthcare is so important that there are several goals in Healthy People 2020 related to increasing the percentage of people who access preventive care (U. S. Department of Health and Human Services [USDHHS], 2019).

Background

There is widespread consensus among all healthcare providers and a recommendation from the U. S. Surgeon General that preventive healthcare is beneficial in reducing disease, prolonging life, and increasing overall health of individuals and communities (USDHHS, 2012). Despite general knowledge that preventive healthcare is beneficial, annual wellness visits that offer preventive healthcare as included within the plan benefits are not being utilized by the
majority of eligible Medicare patients (Colburn & Nothelle, 2018). Only 20% of eligible Medicare patients attended an annual wellness visit in 2016 (Camacho, Yao, & Anderson, 2017). Medicare annual wellness visits are comprised of a health risk assessment; medical and family history; basic pertinent measurements (including height, weight, body mass index [BMI], and waist circumference); a cognitive assessment; screening for depression; screening for functional ability and safety level (including a fall risk assessment and ability to perform activities of daily living); a written screening schedule for the following five to 10 years; identification of personal risk factors; referrals and potential treatment options for identified risks; referrals to community-based programs for education or counseling, including weight loss, smoking cessation, and nutrition; and assistance with advanced care planning (if the patient requests such assistance) (CMS, 2018b). These interventions form a comprehensive assessment and plan for preventive healthcare to reduce disease burden and increase health and wellness within communities.

The reasons for a low completion rate of Medicare wellness visits vary but are most often related to a lack of knowledge (Beran & Craft, 2015). Frequently, Medicare patients do not know that annual wellness visits are an available benefit, or when trying to schedule a visit, clinic staff inadvertently redirect patients to schedule a problem visit instead (Beran & Craft, 2015; Chung, Lesser, Lauderdale, Johns, Palaniappan, & Luft, 2015; Salloum, Jensen, & Biddle, 2013). Most often, patients have not heard of a wellness visit and do not know what it offers (Bluestein et al., 2017; Cross-Barnet, Colligan, McNeely, Strawbridge, & Lloyd, 2018; Petroski & Regan, 2009). Additionally, patients are often unsure of what the visit entails and what the benefits may be, and therefore are reluctant to schedule appointments, cancel appointments, or not reschedule
subsequent wellness visits (Beran & Craft, 2015; Chung, Lesser, Lauderdale, Johns, Palaniappan, & Luft, 2015; Salloum, Jensen, & Biddle, 2013).

Primary care clinics that bill infrequently for Medicare annual wellness visits generally have older patient populations that have more chronic conditions, are largely female, are not married, and are located in less affluent areas compared to organizations that have higher utilization rates (Hu, Jensen, Nerenz, & Tarraf, 2015). Additionally, primary care clinics that have a large population of underserved patients are less likely to promote and encourage patient use of Medicare annual wellness visits (Ganguli, Souza, McWilliams, & Mehrotra, 2018). It is precisely these populations who are not utilizing wellness visits that may benefit the most from them. Preventive care must be universally encouraged in the primary care setting in order to maintain health and wellness, prevent disease, and slow the progression of chronic illnesses.

To address these issues, current research suggests several options to increase patient and provider utilization of Medicare annual wellness visits. Research shows that most providers are not encouraging patients to participate in annual wellness visits, but when they do, the majority of these patients attend wellness visits regularly (Bluestein, Diduk-Smith, Jordan, Persaud, & Hughes, 2017). To combat these gaps that are contributing to this clinical problem, much of the current research suggests educating providers, clinic staff, and patients about potential benefits of the annual wellness visit, including developing protocols to improve utilization of wellness visits (Bluestein et al., 2017; Cross-Barnet et al., 2018). Additionally, current research on the topic agrees that annual wellness visits provide increased opportunities for screening and thereby may reduce healthcare burdens such as cardiovascular disease and cancer, improve vaccination rates, and provide opportunities to screen and counsel for tobacco use, depression, and nutrition.
Research also suggests that Medicare annual wellness visits can contribute significantly to an organization’s financial gain, with reimbursement rates per visit ranging from $117-$172 for one thirty-minute visit (Zito & Derricks, 2016). In order to increase the number of these wellness visits, the focus of this quality improvement project will be educating advanced practice providers on the benefits available from Medicare annual wellness visits.

**Local Problem**

A local primary care clinic in the Tucson, Arizona area sees many patients with Medicare; however, a large number of these patients have never had either an initial or subsequent Medicare annual wellness visit (A. Serna, personal communication, February 18, 2019). The Doctor of Nursing Practice (DNP) student conducted a needs assessment in order to determine what areas need improvement concerning preventive care. Non-structured interviews of front office staff, medical assistants, providers, and the office manager revealed several gaps that needed to be improved upon. For the purpose of this paper, the term *providers* includes physicians and nurse practitioners. Multiple gaps in practice were identified at this site, all related to a lack of knowledge of patients, clinic staff, and providers regarding potential benefits of wellness visits. Clinic staff were not aware of potential benefits of the wellness visit and therefore, were not encouraging or speaking with patients about scheduling and attending this visit. Patients were not aware of all benefits and had not made initial appointments or cancelled previously scheduled appointments. Increasing knowledge of providers regarding preventive healthcare at a primary care clinic in the Tucson area would provide opportunities to help this
community reach Healthy People 2020 goals (USDHHS, 2019). For the purpose of this project, the focus was on increasing knowledge of providers regarding Medicare annual wellness visits in order to educate patients about preventive healthcare benefits and have patients with Medicare complete annual wellness visits.

**Purpose Statement**

The purpose of this DNP project, a quality improvement initiative, was to increase the knowledge of providers regarding Medicare annual wellness visits in a primary care clinic in Tucson, Arizona. The aim of this project was to increase the knowledge of providers of annual Medicare wellness visit components and benefits by 10% after the completion of the web-based education module. The objective of this project was to increase likelihood of providers’ intent to encourage patients to receive a Medicare annual wellness visit. The stakeholders of this project were providers and the office manager at the site of implementation as well as patients with Medicare.

**Study Question**

For providers employed at a Tucson-area primary care clinic, will a web-based education module increase knowledge about Medicare annual wellness visits? An additional question that was answered by this project is as follows: Will a web-based education module increase providers’ self-reported intent to encourage patients to schedule Medicare annual wellness visits?

**Theoretical Framework and Synthesis of Evidence**

The Knowledge to Action framework is a conceptual framework developed in Canada in 2004 based on 31 planned action and change theories (Graham & Tetroe, 2010). There are two main components of the Knowledge to Action (KTA) framework: knowledge creation and
knowledge use (Graham & Tetroe, 2010). Knowledge creation involves researchers finding new data, patterns, and information, which are collected and synthesized by individuals who wish to plan a change within a system (Graham & Tetroe, 2010). Once this knowledge has been created, it is developed into a product or tool to be utilized by other personnel within the system. These results of new knowledge are developed into guidelines, policies, or decision-making aids, which completes the first phase of the KTA framework (Graham & Tetroe, 2010).

Once a product or tool has been created, the second phase, called the knowledge use or “action phase,” of the KTA framework begins. There are seven steps of the action phase, each of which may happen in a step-wise fashion or simultaneously (Graham & Tetroe, 2010). The most frequently used initial step is identifying the problem, which then requires reviewing and selecting knowledge (Graham & Tetroe, 2010). Two subsequent steps require the adaptation of knowledge to local context and the identification of sources of support, as well as barriers, in applying the new knowledge tool (Graham & Tetroe, 2010). Another step includes the selection, customization, and implementation of interventions (Graham & Tetroe, 2010). Three additional steps of the action phase of the KTA framework include monitoring the use of the knowledge tool, evaluating outcomes, and sustaining the change (Graham & Tetroe, 2010).

The KTA framework is complex, cyclic in nature, iterative, and interactive (Field, Booth, Ilott, & Gerrish, 2014; Morton, Wilson, Inglis, Ritchie, & Wales, 2018). The framework relies heavily upon feedback loops between different steps of the action phase, allowing for customization and specific application of knowledge (Graham & Tetroe, 2010). Although conceptual in nature, the KTA framework is practical in that it uses both empirical and contextual knowledge. This framework enables systems to identify what research states is best
practice and also what will realistically work best at a particular clinic with unique needs and barriers (Graham & Tetroe, 2010). By using the two phases of knowledge creation and knowledge action together, the KTA framework assists organizations and providers by providing guidance to gather evidence-based knowledge, develop a clinical tool, and implement the new knowledge to create a planned change in practice.

Model Application

There are two separate groups of stakeholders when using the KTA framework: knowledge creators and knowledge users. During the first phase of knowledge creation, there are the people who create knowledge, usually researchers (Graham & Tetroe, 2010). Additionally, this author is considered a knowledge creator by developing an education module for use at the local Tucson-area clinic. The second phase of the KTA framework, the action phase, includes knowledge users (Graham & Tetroe, 2010). For this DNP quality improvement initiative, the knowledge users will include providers within the clinic.

The knowledge creation phase includes gathering published evidence and articles related to Medicare annual wellness visits. This phase also includes a literature synthesis related to Medicare annual wellness visits and conducting a local needs assessment. The development of an education module for the primary care clinic is also a part of the knowledge creation phase for this specific quality improvement initiative, as it results in the development of a product that will be useful for the action phase.

The action phase includes the adaptation of current literature and evidence to the local clinic and identifying site-specific barriers and sources of support. The action phase incorporates the development and implementation of a customized web-based education module, monitors the
module use, and evaluates the outcomes following the intervention. It is here that the data was analyzed to determine whether the module had actually helped increase provider knowledge and intent to encourage patient scheduling of Medicare annual wellness visits.

**Literature Search**

To gain a better understanding of Medicare annual wellness visits and education modules for providers, several literature searches were conducted. The online databases PubMed, Cumulative Index of Nursing and Allied Health (CINAHL), Embase, and Google Scholar were searched. Key search terms included *Medicare annual wellness visit* and *preventive care*. Other applicable phrases included *preventive visit, prevention, primary care, quality improvement, benefits, continuing medical education, and web-based education*. Inclusion criteria was as follows: published in the last ten years, in English, with adult humans, in academic journals, and an article or review. Articles and reviews were excluded if they were not peer-reviewed, were not in English, or did not have an available full text. The PubMed search yielded 77 results. The CINAHL search yielded 25 results. The Embase search yielded 41 results. Of these articles, 16 were applicable for this project (Appendix A).

**Synthesis of Evidence**

**Provider Delivery**

Many of the articles found in the literature review analyze effectiveness and financial feasibility of offering Medicare annual wellness visits using various provider roles. One method of delivery of Medicare annual wellness visits common in the literature was through an interdisciplinary team (Irons, Evans, Bogschutz, Panasci, & Sun, 2016; Zorek et al., 2015). One article determined that interdisciplinary care teams provided high-quality wellness visits that
resulted in significant increases in preventive care services such as pneumococcal vaccinations, mammograms, fecal occult blood testing, and bone density scans (Zorek et al., 2015). Irons et al. (2016) found that utilizing interdisciplinary teams increased perceived cooperation, learning, and interaction among providers during annual wellness exams. Medicare annual wellness visits delivered with interdisciplinary teams may offer the best possible outcomes by utilizing several different healthcare professionals, such as physicians, nurse practitioners, medical assistants, and front office staff. All of these roles provide specific expertise in order to develop an individualized preventive care plan. Interdisciplinary teams may also help to streamline visits and improve efficiency within clinics. This is a feasible and realistic approach that could be used in many primary care clinics and may not require any additional hiring or personnel.

There was a large number of studies that observed the effect of pharmacists providing wellness visits (Sewell, Riche, Fleming, Malinowski, & Jackson, 2016; Thomas & Goode, 2014; Tran, Miller, & Ivy, 2019). All of the articles that assessed pharmacist-delivered annual wellness visits determined that the visits are beneficial, satisfactory to patients, and effective in identifying drug-related issues (Sewell et al., 2016; Thomas et al., 2014; Tran et al., 2019). It was also determined that having pharmacist perform Medicare annual wellness visits would be financially feasible (Thomas et al., 2014). However, this option may not be available in all primary care clinics and would require not only an available pharmacist, but also state laws that allow a pharmacist to see patients independently and a constant supply of initial wellness visits to be performed in order to support the pharmacist’s salary.

Several other articles assessed the effectiveness of annual wellness visits when provided by nurses and physicians (Sewell et al., 2016; Tetuan, Ohm, Herynk, Ebberts, Wendling, &
Mosier, 2014). Medicare annual wellness visits that are offered by nurses are likely to have high levels of adherence to cancer screenings (Tetuan et al., 2014). This may be because nurses are able to spend more time discussing preventive care with patients, answering questions, and explaining procedures in a non-threatening way. Physicians who conduct annual wellness visits are most likely to recommend vaccines, healthy diet, exercise, laboratory values to monitor lipids and glucose, and perform cognitive screening compared to other providers (Sewell et al., 2016). As regular members of the primary clinic healthcare team, nurses and physicians may improve relationships with patients and increase levels of trust by performing Medicare annual wellness visits and in doing so, increase patient and provider satisfaction.

**Benefits**

Many benefits are available to patients as a result of attending a Medicare annual wellness visit, and this was a common theme found in the literature. The potential positive outcomes in preventive healthcare include increased vaccination rates, bone mass measurement, and screening for cancer, depression, alcohol use, fall-risk (Camacho, Yao, & Anderson, 2017; Chung, Romanelli, Stults, & Luft, 2018; Jiang, Hughes, & Wang, 2018; Tao, 2018). Additionally, one large review found that older adults who were not previously accessing preventive care began doing so with the Medicare annual wellness visit (Chung et al. 2018). Other literature suggested that Medicare annual wellness visits could help policymakers reduce disparities among those who do not often seek preventive healthcare through increased knowledge of providers and beneficiaries or financial incentives for providers and organizations (Camacho et al., 2017). Much of the literature findings are already being accomplished in single primary care sites, but the large number of recent articles combined with incentives for
reimbursement may be a strong incentive for providers to align wellness visits with evidence-based practice. Preventive measures are closely tied to many problems that arise for older adults and increasing preventive care through Medicare annual wellness visits can be very beneficial in improving overall well-being and preventing illness and disease.

**Provider Learning**

There is ample available literature regarding best practices for educating providers, some of which is focused on the use of electronic education modules. Several recent systematic reviews determined that online and web-based education modules built for providers are effective in increasing user knowledge (Sinclair, Kable, Levett-Jones, & Booth, 2016; Thepwongsa, Kirby, Schattner, & Piterman, 2014). These systematic reviews also found that web-based education modules had high rates of satisfaction among providers (Sinclair et al., 2016; Thepwongsa et al., 2014). One study found that patient outcomes improved at a greater level after providers had completed web-based education than when they had completed face-to-face education (Fordis et al., 2005).

In addition to the type of education and setting, the instructional design within web-based educational modules has also been studied. Systematic reviews have not resulted in strong recommendations for content design, as changes in knowledge gained and clinical practices were inconsistent (Thepwongsa et al., 2014). Many studies use an interactive model for learning, but changes were inconsistent and the actual effect on knowledge gained and any potential changes in practice were unknown (Thepwongsa et al., 2014). One large systematic review by Stammen, et al. (2015) synthesized three factors related to physician learning that provided for high-quality, cost conscious care: knowledge transmission, reflective practice, and a supportive environment.
The review determined that if any education material is to be developed and providers are to have lasting, meaningful effects as a result of the education, those three elements must be present (Stammen et al., 2015). This is significant for this DNP project, as education is being developed for and presented to providers, specifically with the intent to provide quality care for patients.

**Appraisal of the Literature**

There are several strengths in the recent literature on Medicare annual wellness visits. There are many articles that show the benefits to patients who receive annual wellness visits, including immediate screening, resource referral, and improvement in long-term health and well-being (Camacho et al., 2017; Chung et al., 2018; Irons et al., 2016; Jiang et al., 2018; Tao, 2018). This common theme in the literature shows how valuable the annual wellness visits are for older adults and justifies a change in practice because there are so many well-documented advantages. There is also much evidence available offering flexibility among which clinic employees or contracted personnel may perform wellness visits (Sewell et al., 2016; Tetuan et al., 2014; Thomas et al., 2014; Tran et al., 2019; Zorek et al., 2015). This theme in the literature offers flexibility for clinics that may be trying to increase access to preventive care and increase the number of patients seen for annual wellness visits.

A main weakness in the available literature is the low level of evidence surrounding documented benefits of the wellness visit. Using the modified hierarchy of evidence developed by Polit and Beck (2017), the articles discussed in Table 1 are graded and range from level 3 to level 6. While there are many documented benefits to the wellness visit, most studies are of small-scale and do not include systematic reviews or meta-analyses. Several are single, non-randomized trials (level 3), which are valuable and expected for the discussion of a clinic’s
implementation process (Thomas & Goode, 2014; Zorek et al., 2015). Other articles are of a lower level of evidence (level 5 or 6) and are limited to a single case-control study or retrospective chart review (Chung, Romanelli, Stults, & Luft, 2018; Tao, 2018; Camacho, Yao, & Anderson, 2017; Irons, Evans, Bogschutz, Panasci, & Sun, 2016). There are no clinical practice guidelines or meta-analyses published on this topic to date. However, this is acceptable for this topic as Medicare annual wellness visits may not be easily studied in an objective, quantitative, and straightforward manner. Currently, there are not many cohort or case-control studies available on the topic, but as time allows and more single-site studies are published, systematic reviews of these studies will become available (Burns, Rohrich, & Chung, 2011). Additionally, Medicare annual wellness visits are a relatively new service for beneficiaries as of 2011, which may be one reason there is not a vast amount of research available (Ganguli, Souza, McWilliams, & Mehrotra, 2017).

There are inconsistent and conflicting results available in current literature as to how best develop web-based education modules for busy providers. In addition to providing direct patient care, primary care providers often spend more than two hours each day in meetings, with management, responding to emails, and making telephone call (Granja, Ponte, & Cavadas, 2014). Education that does not significantly cut into patient care time would be valuable. Specifically, there is no recommended presentation for educational content that is documented to help providers learn effectively. This is a significant gap in the literature as organizations are looking for evidence-based recommendations for educational content that can be developed for providers.
METHODS

Design

A needs assessment was completed by the DNP student by conducting informal interviews with several providers and the clinic’s office manager. All comments described a lack of staff knowledge regarding wellness visits, inconsistency in eligible patient identification and recruitment, and lack of health maintenance visibility within the electronic health record. For these reasons, a quality improvement project with an educational intervention was selected for the project. In order to determine if this education module was effective for increasing provider knowledge, a pretest-posttest design was executed within the quality improvement project (Polit & Beck, 2017).

The content and delivery method of the education module was evidence-based and approved by the student’s doctoral committee members. The criteria for which the educational module was based upon is from a systematic review conducted by Stammen et al. (2015). This review found that for providers to provide high-value, cost-conscious care, educational interventions must have three factors present: knowledge transmission, practice reflection, and a supportive environment (Stammen et al., 2015). This was the structure on which the educational module was built.

Setting

The physical setting for the project was a primary care clinic in Tucson, Arizona. The clinical site, Northwest Allied Physicians- Fountain Plaza Clinic, had approved this project and an authorization letter had been signed (Appendix B). As the wellness visit concerns preventive healthcare and screening for Medicare patients, it was most logical for the participants to be
providers within a primary care clinic. There were six physicians and one nurse practitioner who work within the clinic, all of whom offer annual wellness visits for their patients. The majority of patients within the clinic were geriatric patients with Medicare and therefore were eligible for the annual wellness visit. The web-based education module and disclosure were located on a platform called Qualtrics (2019).

Participants

Inclusion criteria for participants of this project mandated that each participant be a provider at the clinic. Participants were excluded from the project if he/she was not a provider at the site of implementation. There were seven providers at the clinic and the goal of participation was 71.4%. All providers were invited via email for participation in the project by the office manager.

Data Collection

Following the Knowledge to Action (KTA) framework, the first step of the intervention is the knowledge creation phase (Graham & Tetroe, 2010). Here, evidence-based recommendations from the literature were developed into a tool, specifically an education module. Once the education module was built, the project continued to follow the KTA framework. The action phase of the framework was applied to this project when monitoring the module use and evaluating outcomes (Graham & Tetroe, 2010).

All developed tools were built by the DNP student within the Qualtrics website, using Qualtrics surveys (2019). Developed tools consisted of a pretest, education module, and posttest. All data was reported anonymously and collected and stored within Qualtrics (2019). No
demographic data was collected so as to maintain participant anonymity due to small number of participants.

To initiate the intervention, the DNP student emailed a notice to the site’s office manager, who then emailed the notice to all of the clinic’s providers (Appendix C). This email notice served as a brief introduction to the project and reminder that a link for the education module and invitation to participation would soon follow. The email notice also informed participants that the module would be open for a two-week period, that participation was available anytime within the two-week window, and the module would take approximately ten minutes to complete. The DNP student then sent a second email with all of the same project information and the link for the education module to the office manager, who forwarded the second email with the link for the education module to all of the clinic’s providers (Appendix D).

Using the web-based survey platform Qualtrics (2019), the link to the education module first directed participants to a disclosure form (Appendix E). The link was universal, anonymous, and not associated with a personalized token. Once participants chose to continue, they were then redirected to a pretest (Appendix F). The pretest contained questions about Medicare annual wellness visit requirements, visit frequency, billing codes, sample patient questions, and perceived value of preventive healthcare. All six pretest questions were multiple choice or select all that apply, required a response, and were designed to measure baseline knowledge.

Once the pretest had been completed, the participant was redirected to the education module (Appendix G). The module was comprised of eleven, non-interactive slides that provided information regarding Medicare annual wellness visit requirements, visit frequency, billing codes, site specific EHR information, practical implications, and self-reflection questions. As
recommended by the findings from the systematic review conducted by Stammen et al. (2015), the module contained estimated prices of services, scientific evidence, patient preferences, reflection stimulation, and evidence of a supportive environment within the clinic. The content of the education module had been approved by the DNP student’s committee.

After reading the education module, the participant was redirected to the posttest (Appendix H). The posttest consisted of eight questions, five of which were multiple choice or select all that apply, were identical to questions on the pretest, and assessed knowledge gained. These responses allowed for direct comparison of knowledge gained. The posttest had three additional questions. One question assessed intent to encourage patients to schedule wellness visits using Likert-style responses. Another question was free-text and gathered information about personal reflection of performance during wellness visits. The last question of the posttest concerned the education module usability and gathered Likert-style responses on navigability, organization, and appropriateness. Aggregated responses were discussed with the office manager at the clinic to determine if any workflow or processes related to Medicare annual wellness visits needed to be altered based on identified barriers. The responses to the module usability question in the posttest provided some direction for future improvement in order to increase sustainability.

**Ethical Considerations**

This quality improvement project was reviewed by the University of Arizona Institutional Review Board to confirm the project was not human subjects research (Appendix I).

**Respect for Persons**

Respect for persons or human dignity is a principle of ethics that seeks to include the rights to full disclosure and self-determination for participants (Polit & Beck, 2017). The
disclosure provided autonomy for the participants. Participants were provided with a full disclosure for participation in the project, which provided autonomy for participants. The participants were volunteers only and were able to leave the project for any reason at any time. No participant demographic data was accessed, collected, or retained at any time during this project. Anonymous multiple choice and free-text responses were stored in Qualtrics and only the DNP student and committee had access to this data. Raw data was reported in text format and displayed in bar graphs. At the completion of the project, anonymous responses were offered to the clinical site office manager. This project complied with all Health Insurance Portability and Accountability Act of 1996 (HIPAA) guidelines regarding privacy as no personal identifiers were requested, gathered, or stored.

**Beneficence**

Beneficence is a principle of ethics that seeks to prevent any harm to participants and maximize potential benefits (Polit & Beck, 2017). The risks of the project were minimal. All participants were made aware in the disclosure that project participation would not positively or negatively affect their employment status at the site of implementation. Benefits to provider participants included potential knowledge gained on the subject.

**Justice**

Justice is a principle of ethics that seeks to include the rights of privacy and fair treatment (Polit & Beck, 2017). All providers were invited for participation in the project. Inclusion criteria was fair for participants based on the project content, as all physicians and nurse practitioners at the primary care clinic provide Medicare annual wellness visits for patients. The project design was appropriate and safe to protect privacy while seeking to meet project objectives.
Data Analysis

Data was analyzed using several methods. Because the sample size was small with seven possible participants, descriptive statistics were appropriate (Polit & Beck, 2017). Frequency distributions were used to display correct responses using histograms (Polit & Beck, 2017). Free-text responses were analyzed for content and grouped into themes accordingly (Polit & Beck, 2017).

RESULTS

The intervention of this project was an education module developed for physicians and nurse practitioners, offered together with a pretest and posttest to assess knowledge gained. Questions on both the pretest and posttest were modified for clarity, to avoid repetition, and to accurately assess the module’s usability. Three providers participated in the quality improvement project (N=3, 42.9%).

Change in Knowledge

Question 1 on the pretest and posttest was as follows: Which of the following are requirements of a Medicare annual wellness visit (initial or subsequent) (select all that apply)? Responses included health risk assessment, baseline labs (CBC, CMP, lipid panel), cognitive screen, physical examination, detailed family health history, and vision and hearing screens. The correct responses were health risk assessment, cognitive screen, detailed family health history, and vision and hearing screens. On the pretest, three participants selected health risk assessment, two participants selected baseline labs (CBC, CMP, lipid panel), three participants selected cognitive screen, two participants selected detailed family health history, one participant selected physical examination, and two participants selected vision and hearing screens. On the posttest,
three participants selected *health risk assessment*, zero participants selected *baseline labs* (*CBC, CMP, lipid panel*), three participants selected *cognitive screen*, two participants selected *detailed family health history*, zero participants selected *physical examination*, and three participants selected *vision and hearing screens*. The responses on the posttest demonstrate a gain in knowledge on three of the six possible response choices to Question 1 (Figure 1).

![FIGURE 1. Responses to question 1. (There were four correct of six possible answers to this ‘select all that apply’ question.)](image)

Question 2 on the pretest and posttest was as follows: *What billing codes are correct for an initial/subsequent Medicare annual wellness visit?* Multiple choice responses included *G0438, G0439* and *Z0348, Z0349*. The correct response was *G0438, G0439*. On the pretest, two
selected responses were \textit{G0438}, \textit{G0439} and one selected response was \textit{Z0348}, \textit{Z0349}. On the posttest, three selected responses were \textit{G0438}, \textit{G0439}, which was the correct answer. Question 2 displays a knowledge gain in one participant, the only participant that previously did not know this question’s information prior to the education module.

\textbf{FIGURE 2.} Responses to question 2. (This was an ‘either/or’ question assessing knowledge of pertinent billing codes. One participant demonstrated a gain in knowledge.)

Question 3 on the pretest and posttest was as follows: \textit{How often does Medicare cover a wellness visit?} This was a multiple-choice question with four response choices, including \textit{once every 6 months}, \textit{once every 9 months}, \textit{once every 12 months}, and \textit{once every 24 months}. The correct response was \textit{once every 12 months}. On the pretest, three selected responses were \textit{once every 12 months}. On the posttest, three selected responses were \textit{once every 12 months}. Question 3 does not demonstrate any knowledge gained by participants after viewing the education module, as all participants knew the correct response prior to viewing the education module.
Question 4 on the pretest and posttest was as follows: Do you need to screen for depression during a Medicare annual wellness visit? This was a multiple-choice question with two response choices, including yes and no. The correct response was yes. On the pretest, three selected responses were yes. On the posttest, three selected responses were also yes. Question 4 does not demonstrate any knowledge gained by participants after viewing the education module, as all participants knew the correct response prior to viewing the education module.

**Intent to Schedule**

Question 5 on the pretest and posttest was as follows: Do you feel that preventive care and screening, such as that in the Medicare annual wellness visit, is beneficial for patients? There were three response choices, including yes, maybe, and no. There was no correct response on Question 5 as the content is subjective to each participant. For Question 5, three selected responses were yes, indicating a unanimous belief among participants that preventive care, such as that provided in the Medicare annual wellness visit, is beneficial for patients.

Question 6 on the pretest was as follows: Currently, are you likely to encourage your patients to schedule Medicare annual wellness visits? There were five response choices for Question 6 on the pretest, which included extremely likely, somewhat likely, neither likely nor unlikely, somewhat unlikely, and extremely unlikely. On the pretest, two selected responses were somewhat likely and one selected response was neither likely nor unlikely. Question 6 on the posttest was as follows: After viewing this education module, will your intent to encourage patients to schedule Medicare annual wellness visits increase? There were five response choices for Question 6 on the posttest, which included definitely yes, probably yes, might or might not, probably not, and definitely not. On the posttest, two selected responses were probably yes and
one selected responses was *definitely yes*. The responses to Question 6 demonstrate that two participants indicated an increased likelihood of intent in encouraging patients to schedule Medicare annual wellness visits. These results are not significant with a small number of participants; however, these are encouraging responses in that all three participants responded either *definitely yes* or *probably yes* when asked if they were likely to encourage patients to schedule a wellness visit.

![Graph showing responses to question 6.](image)

**FIGURE 3.** Responses to question 6. (Using a Likert scale, this question assessed participants’ intent to encourage patients to schedule Medicare annual wellness visits.)

**Personal Reflection**

Question 7 encouraged personal reflection by provider participants and queried about areas of improvement during Medicare annual wellness visits. Two themes emerged from responses for Question 7. The first theme was a lack of time. One participant noted that his or her patient panel was full and did not often encourage wellness visits unless the topic was mentioned
by patients. This participant also reflected that many of his or her patients would benefit from screening that is conducted during a Medicare annual wellness visit. A second theme that emerged was the difficulty of performing physical screens in a fast-paced clinic. Many screens can be completed on paper beforehand and briefly reviewed, but several may be performed using direct observation, such as fall risk and ability to successfully perform activities of daily living (ADL). One provider participant noted that it was difficult to screen using direct observation in a clinic setting. One participant declined to respond.

**Module Usability**

Question 8 assessed module usability and appropriateness of content. The responses used Likert-style to determine navigability, organization, and appropriateness. All participants selected *strongly agree* in response to all three questions within Question 8 (Table 1).

<table>
<thead>
<tr>
<th>Question</th>
<th>Strongly agree</th>
<th>Somewhat agree</th>
<th>Neither agree nor disagree</th>
<th>Somewhat disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>This module was easy to navigate</td>
<td>3 (100%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
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<tr>
<td>This module was well-organized</td>
<td>3 (100%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>The content was appropriate for the target audience</td>
<td>3 (100%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
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**DISCUSSION**

**Summary and Interpretation**

The results of this quality improvement project suggest that participating providers gained knowledge on the topic of Medicare annual wellness visits after viewing the education
module. Additionally, providers’ self-reported intent to encourage patients to schedule Medicare annual wellness visits increased in the majority of participants. These are both valuable findings and suggest the effectiveness of this module for educating providers on Medicare annual wellness visits. The purpose and objective of this study were both met with the results of this project, as providers had increased knowledge and intent to encourage patients to schedule wellness visits after viewing the education module. The aim of this project was not met, as most participants answered all questions correctly on the pretest and a 10% gain in knowledge was not met. One strength of this project was the thorough method of the literature search and selection of relevant articles and studies. Another strength of this project is its ability to be altered and implemented at other primary care clinics. The content of this project’s education module was developed using Medicare guidelines and the latest literature; therefore, it may be useful for other organizations or settings that offer the Medicare annual wellness visit to beneficiaries.

This quality improvement project was designed specifically for the intervention to affect the outcome. In this instance, the web-based education module was distributed to providers at a primary care clinic in Arizona to provide education about Medicare annual wellness visits and determine providers’ attitudes toward preventive and intent to encourage patients to schedule wellness visits. The results of this project demonstrate that knowledge was gained by most or all participants on two of the four questions that assessed knowledge of the Medicare annual wellness visit. The results also demonstrate a belief among participants that preventive care is beneficial and exhibit an increase in intent to encourage patients to schedule Medicare annual wellness visits.
Limitations

An unintended problem with the intervention was the method in which participants were invited. While the initial email was intended to alert participants of the project and the invitation to follow, it may have inadvertently alerted recipients to not read or immediately ignore or discard the second email containing the invitation link if they had no interest in participation. Email was not a successful method for invitation to participants as evidenced by a low participation rate that was less than goal. The participation rate was lower than the goal of five providers, or 71.4%. The actual participation rate was three providers (N=3), or 42.9%. Another limitation of this study was the undetermined effect that the education module will have on clinical practice of participating providers and therefore, patient outcomes. This is one area where future study may focus upon.

There were two questions (Question 3 & Question 4) that were answered 100% correctly on both the pretest and posttest. These questions were developed to assess participant knowledge of the module content; however, based on responses, this content was already well-known to providers prior to participation. Had these two questions been developed on more difficult, lesser-known content of the Medicare annual wellness visit, knowledge gain may have been greater on the posttest.

Clinical Practice Implications

The results of this project demonstrate that providers in primary care clinics value preventive care and feel that it is important and beneficial for patients. The results also demonstrate knowledge gained by participants after learning about Medicare annual wellness visits. This new knowledge can be beneficial in guiding providers when discussing these visits
with patients and when performing the visits in clinic. Through these discussions and interactions with providers who have greater knowledge of wellness visits, patients may better understand the purpose of a wellness visit and in turn, place a higher value on preventive care. Finally, with an increase in reported intent to encourage patients to schedule Medicare annual wellness visits, the results here show a positive change in practice that can have a direct and immediate effect on patients.

**Dissemination**

The process and results of this quality improvement project have been disseminated to the primary clinic that was the site of implementation. The education module will be used as part of onboarding education for new providers. This site has also recently implemented a new worksheet for more comprehensive assessments of all necessary aspects of the wellness visits. This, in combination with the education module and the large revenue potential of the Medicare annual wellness visits, will help to make this a lasting change in practice (Beckman, et al., 2019; Ganguli, Souza, McWilliams, & Mehrotra, 2018). This clinic is part of a larger organization that has 15 other primary care clinics in the Tucson, Arizona area and the module may also be shared with the organization’s other clinics. Additionally, the process and results of this study will be disseminated when the author seeks publication of this manuscript.

**DNP Essentials**

The Doctor of Nursing Practice Essentials are eight core competencies that are used to frame the education of DNP programs and allow the DNP student to demonstrate an accumulation of knowledge that culminates in the DNP project (Burson, 2017). This project has been developed using many of the DNP Essentials. *Essential I: Scientific Underpinnings for*
Practice was used in this project when developing the intervention, which is evidence-based and developed using science to improve clinical practice (Burson, 2017). Essential II: Organization and Systems Leadership for Quality Improvement and Systems Thinking was utilized by the DNP student when collaborating with the committee and the leadership within the organization to develop an improvement (Burson, 2017). Essential IV: Information Systems/Technology was utilized when creating the intervention and accessing result data (Burson, 2017). Essential VII: Clinical Prevention and Population Health for Improving the Nation’s Health was used when developing the purpose of and defining the project, as preventive care was the foundation of this project (Burson, 2017). The entire project as a whole used Essential VIII: Advanced Nursing Practice when creating a working intervention that was able to connect issues within an organization, identify a gap in practice, and develop a working solution that will last (Burson, 2017).

Conclusions

This project was well-grounded in the Knowledge to Action (KTA) framework, using both the knowledge phase and action phase throughout the development and implementation of the education module. Evidence-based recommendations from the literature were utilized to build a tool, which was developed specifically for the site and then used to educate providers and assess knowledge gain and intent. Using the action phase of the KTA framework, the primary care clinic will be able to sustain the intervention and continue to use the education module for all new and current providers. Overall, the Knowledge to Action framework was a good fit for this project because both phases of the framework were used in their entirety and it provided a strong guideline to follow during the course of this project.
The web-based education module in this project’s intervention showed that participating providers had an increased level of knowledge regarding the Medicare annual wellness visit and had increased intent to encourage patients to schedule these preventive visits. This is important for clinical practice because the results of the posttest demonstrated that participants did place value on preventive care and self-reported an increase in intent to encourage patients to schedule wellness visits. This is extremely important as increased intent directly relates to a potential in increased revenue for the clinic. If providers state they are more likely to recommend this type of visit for patients, this will likely lead to an increase in revenue due to more scheduled wellness visits. This quality improvement project can be a successful and lasting change if used continuously in conjunction with their newly implemented worksheet and high reimbursement rates. One area that may be of focus for the clinic in the future is implementing interdisciplinary teams when providing wellness visits. The literature showed that many clinics have used interdisciplinary teams and had great success with patient satisfaction and financial feasibility (Galvin et al., 2017; Irons et al., 2016; Zorek et al., 2015).

This DNP project has helped the author learn how to conduct a thorough literature review and critically read articles. This project has also taught the author the value of communication, teamwork, and flexibility when working with others who may or may not share common goals. This project has prepared the author to conduct quality improvement projects in the future, as she has learned the process of quality improvement and is better equipped to implement evidence-based research into practice in order to improve patient outcomes as an advanced practice provider.
OTHER INFORMATION

Funding

This project did not receive any funding from any individual, agency, or sector in the design, implementation, interpretation, or reporting phases.
APPENDIX A:

EVIDENCE TABLE
<table>
<thead>
<tr>
<th>First Author/Year</th>
<th>Research Question, Hypothesis</th>
<th>Study Design</th>
<th>Sample/Setting</th>
<th>Methods for Data Collection/ Data Analysis (Instruments/Tools)</th>
<th>Major Findings</th>
<th>Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Camacho, F., 2017</td>
<td>To determine whether MAWV result in more recommended care and subsequent screening rates.</td>
<td>Observational study.</td>
<td>N=659,150. Group A (n=52,300) those with initial or subsequent MAWV without indication of S/P in past 90 days. Group B (n=20,850) those with MAWV after S/P occurring in past 90 days. Group C (n=586,000) those without MAWV or any S/P in past 90 days. Data gathered from Medicare fee-for-service claims 2011-2014.</td>
<td>Samples weighted with inverse probability weights. Multinomial logistic regression to find group membership probabilities needed for weights. Standardized difference scores used to balance covariates. Comparisons made across all groups for individual screening rates by using Kaplan-Meier failure curve.</td>
<td>Groups A and B had significantly higher screening rates than did Group C (p&lt;0.01). Nonsignificant differences in subgroup screening and prevention between Group A and Group B (p=0.8698). This shows that initial or subsequent MAWV both have significantly better screening rates in seven categories compared to Medicare beneficiaries who do not receive MAWV.</td>
<td>Confounders possible due to observational nature of study, which could bias comparisons.</td>
</tr>
<tr>
<td>Chung, S., 2018</td>
<td>Older adults are less likely to make a preventive visit as they age; older adults who have multiple serious comorbidities are less likely to make a separate preventive visit; the impact of coverage expansion is greater among groups of older adults who have been previously underutilizing preventive visits.</td>
<td>Case-control observational.</td>
<td>N=456,281. Medicare beneficiaries ages 65-85 who were seen in any 1 of 30 primary care clinics in a large HCO in northern California. EHR data including billing codes were collected. Multilevel logistic regression models used to estimate predictors of preventive visit. Stratified sample analyses used to determine differential impact before and after MAWV.</td>
<td>19% eligible patients made preventive visits in 2007-2010. From 2011-2016, preventive visits increased to 38%. Preventive visits declined both with age and increased comorbidities. Non-Hispanic whites were most likely to seek preventive care compared to African-Americans and Hispanic older adults.</td>
<td>Data from single organization and may not be generalizable to populations with less healthy patients. Rate of PCS analyzed, not including content of problem-visits, which may also include PCS but this data was not gathered.</td>
<td></td>
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<tr>
<td>Galvin, S. L., 2017</td>
<td>Determine effectiveness of delivery and uptake of team-based annual wellness visits on preventive services over 20-month period.</td>
<td>Retrospective cohort analysis</td>
<td>N=500. All participants had MAWV between July 1, 2014 and March 31, 2015 located in 1 of 5 outpatient clinics in western North Carolina. Manual chart extraction performed by two authors. Data analyzed using McNemar’s test Chi square analyses to compare change over time and conduct cohort comparisons. Use of MAWV increased from 14% to 44% over 20-month study period. Vaccinations increased significantly (p=0.001) in uptake by six months post-MAWV. Preventive screening (55.8% to 75.4%) and recommended screening</td>
<td>Results may not be generalizable as study was conducted at one site in rural North Carolina, and similar results may not be found in areas of greater ethnic and racial diversity.</td>
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<td>Hadadgar, A., 2016</td>
<td>To identify the factors (both enabling and hindering) that influence participation in electronic CME using the Theory of Planned Behavior.</td>
<td>Case-control study</td>
<td>N=143. All participants were GPs who attended one of seven CME seminars in Isfahan, Iran in 2014.</td>
<td>Questionnaire developed and implemented to determine intention to use electronic CME. Chi-square used to determine relationships between variables. Linear and logistic regression used to identify main predictors of behavior and intention.</td>
<td>Study found significant positive correlation between total electronic CME credits earned (measured as electronic CME behavior) and intention (p&lt;0.01). Attitude toward usefulness of electronic CME was found to be main predictor of being electronic CME user.</td>
<td>Results may not be generalizable as study was conducted in large metropolitan city in Iran, and results may not be similar in rural or metro areas in different countries. Bias may have also been present as participants were already attending CME event.</td>
</tr>
<tr>
<td>Irons, B., 2016</td>
<td>Assess perception of multidisciplinary healthcare students on team-base collaboration during MAWV.</td>
<td>Cross-sectional design with retrospective survey.</td>
<td>N=66. Students in inaugural year from 2011-2012 and studying audiology, nursing, medicine, occupational therapy, pharmacy, physical therapy, psychology, and speech and language therapy.</td>
<td>Analysis completed using IBM SPSS Statistics, version 20. Descriptive statistics used for demographic response analysis. Paired-sample t-tests used to analyze perceptions and attitudes.</td>
<td>Student perception of knowledge about other healthcare professionals improved significantly (depends on profession, but p&lt;0.019 or less). Student perception of cooperation between healthcare professionals (p=0.002) during a MAWV, perception of learning (p=0.001) and cooperation (p&lt;0.001) all increased significantly.</td>
<td>No control group used to compare students exposed to MAWV and interprofessional collaboration to students who had no exposure. Also, convenience sample was used and self-reporting of perceptions immediately after intervention may limit results.</td>
</tr>
<tr>
<td>Jiang, M., 2018</td>
<td>Assess the effect of receiving a MAWV on the utilization of eight preventive services that are offered for Medicare beneficiaries.</td>
<td>Retrospective cohort study.</td>
<td>N=845,318. Medicare beneficiaries ages 65 and older who had parts A and B coverage and had undergone a MAWV between 2011 and 2013. Data pulled from Medicare Research Identifiable Files, which contains claims for a representative 5% of People who undergo MAWV are more likely than matched cohorts to undergo mammograms, Pap smears, bone mass measures, prostate and colon cancer screens, influenza vaccines, and be screened for alcohol use and depression (P&lt;0.001 with all</td>
<td>Logistic regression to categorize patients and assign them to a control (person of similar characteristics who did not participate in MAWV). Multivariate logistic regression used to further cluster participants provided doubly robust estimation and unbiased</td>
<td>People who undergo MAWV are more likely than matched cohorts to undergo mammograms, Pap smears, bone mass measures, prostate and colon cancer screens, influenza vaccines, and be screened for alcohol use and depression (P&lt;0.001 with all</td>
<td>Results may not be generalizable to Medicare managed plans because study was done on Medicare fee-for-service beneficiaries. Study only examined eight PCS and did not consider all preventive measures encouraged for Medicare beneficiaries.</td>
</tr>
<tr>
<td>First Author/Year</td>
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<tr>
<td>Sewell, M. J., 2016</td>
<td>Compare interventions, screenings, and generated revenue between pharmacists and physicians in providing MAWV.</td>
<td>Retrospective cohort analysis.</td>
<td>N=108. Participants eligible if they received a subsequent MAWV from December 2013 to March 2016. Outpatient clinic affiliated with university hospital in Mississippi.</td>
<td>Fisher’s exact test and descriptive statistics were used to compare and report patient variables between the physician group and pharmacist group.</td>
<td>Interventions were not statistically significant between pharmacists and physicians. Screenings were performed more frequently by pharmacists (p&lt;0.001). Revenue generated was higher in pharmacist (billed $2,601 and reimbursed $1,785 [$105 per visit]) compared to the physician group (billed $13,005 and reimbursed $8,866 [$99 per visit]). Pharmacists provide comparable-quality MAWV as physicians.</td>
<td>Pharmacists in Mississippi are able to see patients independently in clinic, so results may not be generalizable to states who do not allow this practice. Physicians saw more than four times the number of patients compared to pharmacists and consistently recommended diet and exercise interventions, but this was not accounted for because the recommendations were part of a template.</td>
</tr>
<tr>
<td>Sinclair, P. M., 2016</td>
<td>To identify, appraise, and synthesize the best evidence available for the effectiveness of e-learning programs on the behavior of health care professionals and patient outcomes.</td>
<td>Systematic review</td>
<td>7 randomized control trials from CINAHL, Embase, ERIC, Medline, Mosby’s Index, Scopus, and Cochrane. Inclusion criteria was a published date of 2004–July 2015. Two searches conducted July 2014 and July 2015.</td>
<td>Manual extraction of data by two authors for criteria including populations, interventions, study methods, and outcomes. Data synthesized by primary author and discussed with other authors. Meta-analysis not possible due to differing study designs, so data provided by primary author in thematic and narrative forms.</td>
<td>E-learning was found to be significantly more effective than traditional learning in a blended context (p&lt;0.001), significantly more effective than no learning at all (p&lt;0.0001), and as effective as classroom instruction and similar learning approaches. No included studies reported effectiveness of e-learning on patient outcomes.</td>
<td>Several limitations present, including thematic content analyzed primarily by one author. Selection bias may have been present and statistical pooling was not completed as study designs differed.</td>
</tr>
<tr>
<td>Stammen, L. A., 2015</td>
<td>Understand the circumstances in which the delivery of high-value, cost conscious care is learned, in order</td>
<td>Systematic review</td>
<td>179 total articles, 14 of which were randomized clinical trials, all gathered from PubMed, Embase, ERIC, and</td>
<td>Form used by authors to abstract and code data. Qualitative data analyzed using narrative review, with researchers</td>
<td>Conclusion of systematic review was that success of educational intervention depended on three factors: knowledge</td>
<td>Bias may have been introduced due to subjective nature of definitions of inclusion terms (high-value, cost-</td>
</tr>
<tr>
<td>First Author/Year</td>
<td>Research Question, Hypothesis</td>
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<tr>
<td>Tao, G., 2018</td>
<td>Assess whether MAWV impact the use of other PCS in the eligible population. All claims of Medicare beneficiaries 2013-2014 accessed to determine relationship between MAWV and depression screen, STI screen, and influenza vaccine.</td>
<td>Case-control observational study.</td>
<td>N=28,000,000. All active Medicare beneficiaries who had a claim in 2013 and 2014.</td>
<td>Pearson’s χ² tests used to find significant differences in categorical data analysis.</td>
<td>Medicare beneficiaries who attended MAWV had significantly higher percentage of depression screening, influenza vaccination rates, and STI screening compared to Medicare beneficiaries who did not attend a MAWV in 2014.</td>
<td>Sample size not clearly stated; author estimated MAWV based on claims associated with codes G0439 and G0439 then assumed those patients were also screened for the three variables. Author stated categorical variables offered statistical significance but did not provide p-values.</td>
</tr>
<tr>
<td>Tetuan, T. M., 2014</td>
<td>Assess effectiveness of a nurse-run MAWV in improving adherence to cancer screens, specifically mammograms and colonoscopies.</td>
<td>Observational study.</td>
<td>N=170. Medicare beneficiaries ages 65-75. Group A (n=64) convenience sample who attended MAWV without physician encouragement and not linked to physician follow-up. Group B (n=38) convenience sample who attended MAWV and linked to physician follow-up. Group C (n=68) randomly selected group of patients who did not attend MAWV and not patients of physicians at wellness clinic. Chart review from 28</td>
<td>Pearson’s χ² tests used to determine characteristic differences in three groups. Fisher’s exact used when χ² assumptions not met. Logistic regression and descriptive statistics used to find predictors to adherence and to describe the sample.</td>
<td>Significant cancer screening rates found for those who attended MAWV for mammograms (p&lt;0.001) but not colonoscopies (p=0.0991).</td>
<td>Power not achieved for colonoscopy screening due to low number of participants for analysis (N=7), therefore statistical significance may be altered with more power. Limited potential participants due recommended screening ages of two selected tests 65-75, therefore may not be generalizable to older Medicare patients or other screening exams.</td>
</tr>
<tr>
<td>First Author/Year</td>
<td>Research Question, Hypothesis</td>
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<tr>
<td>Thepwongsa, I., 2014</td>
<td>Assess available evidence in the literature for effectiveness of online CME specifically targeting GPs.</td>
<td>Systematic review</td>
<td>11 studies total, selected from Cochrane, Embase, ERIC, Scopus, Ovid Medline, Informit Health Collection, and Google Scholar. Inclusion criteria of published date up until September 2013.</td>
<td>Manual screening of titles, abstracts, and full text content by three authors. Standardized forms used for manual entry of criteria, which included authors, published year, and other article criteria, similar to this table.</td>
<td>Systematic review found that most articles found an improvement in satisfaction, knowledge, or practice change after provider completed CME. Little evidence available on patient outcomes following provider completion of CME.</td>
<td>Limitations includes bias (participants were volunteers), lack of validity and reliability in evaluation tools, differences in instructional methods of CME, and small study sizes of included articles.</td>
</tr>
<tr>
<td>Thomas, M. H., 2014</td>
<td>Assess development, implementation, and financial-feasibility of MAWV delivered by pharmacists.</td>
<td>Controlled trial.</td>
<td>N=174. Patients selected from practice census and recruited if on Medicare, 66 years of age or older, and had not had a MAWV (initial or subsequent) billed in previous year. Single private family practice clinic in Virginia.</td>
<td>Data identified by billing codes G0438 (initial MAWV) and G0439 (subsequent MAWV). Pharmacist hours gathered through retrospective chart review and calculating total number of applicable thirty-minute appointments. Billing codes also used to determine reimbursements.</td>
<td>Clinic was reimbursed $27,880.98 for 174 MAWV, 173 of which were initial visits. This results in each initial MAWV bringing $163.51 in to clinic. For a pharmacist-led visit, this is financially feasible for private clinics that perform at least 16 initial MAWV per week.</td>
<td>This study did not assess effectiveness of pharmacist-delivered MAWV on preventive services or patient outcomes. Pharmacist also was required to have physician cosign MAWV charts, thus reducing viability and cost-effectiveness.</td>
</tr>
<tr>
<td>Tran, T., 2019</td>
<td>Compare the number and type of drug therapy problems identified by pharmacists and physicians during MAWV.</td>
<td>Cohort and case-control. Prospective portion consisted of pharmacists, physicians, and Pas performing MAWV. Retrospective portion consisted of EHR review.</td>
<td>N=50. Medicare patients at single primary care, interdisciplinary clinic in Texas.</td>
<td>Drug therapy problems were characterized with descriptive statistics. Comparisons were made with Wilcoxon-Mann-Whitney test and Fisher’s exact for variables.</td>
<td>Pharmacist group identified more medication-related problems (categorized as indications, effectiveness, safety, and adherence) than physicians (100:20). Significant issues found by pharmacists related to indication without a medication ordered (p&lt;0.0005) and patient lack of understanding of</td>
<td>Data among groups gathered in different manners (pharmacist: prospective; control: retrospective). EHR documentation differences between physicians and pharmacists may obscured results or interventions not documented at all.</td>
</tr>
<tr>
<td>First Author/Year</td>
<td>Research Question, Hypothesis</td>
<td>Study Design</td>
<td>Sample/Setting</td>
<td>Methods for Data Collection/ Data Analysis (Instruments/Tools)</td>
<td>Major Findings</td>
<td>Limitations</td>
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<td>Wilson, C. G. et al., 2015</td>
<td>Measure nature and frequency of pharmacist interventions during MAWV and assess patient and physician satisfaction with MAWV provided by pharmacists.</td>
<td>Retrospective case series with post-implementation surveys.</td>
<td>N=69 patients. All participants who had MAWV April 1, 2012 to January 31, 2013 were selected for chart review. Large teaching, multidisciplinary family medicine practice in North Carolina.</td>
<td>Correlations determined between medications and intervention, then medications and total interventions. Survey response analyzed with Likert scale for content and means and medians determined.</td>
<td>Pharmacists provided interventions both related to and not related to medications. There was a positive association between medications taken and medication interventions (p&lt;0.01). Patients’ survey responses indicated they felt MAWV was beneficial for overall health. Physicians strongly agreed that patients benefitted from AMWV led by pharmacists and strongly disagreed that they would prefer to conduct AMWV instead.</td>
<td>Inaccuracies and inconsistencies in visit documentation may have limited chart review. Physician attitude toward pharmacist involvement could have been biased based on previously-established interdisciplinary team setting.</td>
</tr>
<tr>
<td>Zorek, J. A., 2015</td>
<td>Determine if preventive care services improved for patients who had a MAWV at an interdisciplinary teaching clinic.</td>
<td>Controlled trial.</td>
<td>N=101. Medicare beneficiaries ages 66-74 selected from database of university hospital in Texas. 33 in pilot group, 68 randomly selected for control group.</td>
<td>Descriptive statistics, McNemar, and Fisher’s Exact tests were used to categorize patients, assess PCS status, and compare PCS status between groups.</td>
<td>Significant increase in pneumococcal vaccinations (p&lt;0.016), mammography screening (p&lt;0.031), fecal occult blood (p&lt;0.001), and DEXA scans (p=0.001) found post-intervention in pilot group, showing that interdisciplinary teaching clinic improves PCS effectiveness.</td>
<td>Patients volunteered for pilot group, and due to this nature, may be more likely than general public to adhere to PCS recommendations. Due to setting of teaching clinic, pharmacist had salary pay, which may not be sustainable in another setting based on same patient volume.</td>
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</table>

Abbreviations: MAWV: Medicare annual wellness visit; PCS: preventive care services; EHR: electronic health record; PA: physician assistant; S/P: screening events/other preventive visits; CME: continuing medical education; GP: general practitioner; E-learning: electronic learning; CINAHL: Cumulative Index to Nursing and Allied Health Literature; ERIC: Education Resources Information Center
APPENDIX B:

AUTHORIZATION LETTER
May 11, 2019

C/O: Alexandra Serna
Northwest Allied Physicians
6000 N. Fountain Plaza, Suite 270
Tucson, AZ 85741

This is a letter of commitment and support to state that the clinic of Northwest Allied Physicians at Northwest Medical Center will allow Clare Pinder, University of Arizona DNP student, to complete her project tentatively titled “Web-Based Education for Primary Care Providers on Medicare Annual Wellness Visits” at this site. The tentative dates for project implementation are July 2019 to September 2019. The clinic will provide an environment for the student to implement her project, and the student will provide a web-based education module for advanced healthcare providers regarding Medicare annual wellness visits that the clinic may own and implement.

[Signature]
Alexandra Serna, Office Manager at Northwest Allied Physicians-Fountain Plaza Clinic

[Signature]
Clare Pinder, DNP Student
APPENDIX C:

EMAIL NOTICE
Hello,

My name is Clare Pinder and I am a Doctor of Nursing Practice (DNP) student at the University of Arizona. As part of my DNP degree requirements, I am conducting a quality improvement project at this primary care clinic and I would like your help. I am inviting you to soon participate in a brief web-based education module to increase your knowledge of Medicare annual wellness visits. Within the next two weeks, you will receive another email with a link for participation. If you decide to participate, clicking on the link will direct you to the project’s intervention: a disclosure form, a brief pretest, the education module, and a brief posttest.

The link that will be sent for participation is universal, anonymous, and non-tokened. No personal information about you individually will be gathered, and your participation will not affect your employment status in any way. I am sending this email to serve as a notice of invitation and reminder to please look for another email with the link for participation in the next two weeks. Thank you.

Sincerely,

Clare Pinder, University of Arizona DNP student
APPENDIX D:

EMAIL INVITATION
Hello again,

My name is Clare Pinder and I am a Doctor of Nursing Practice student at the University of Arizona. I am conducting a quality improvement project at this primary care clinic and I would like your help. I am inviting you to now participate in a brief web-based education module to increase your knowledge of Medicare annual wellness visits. This link at the bottom of this email is your invitation to participation. If you decide to participate, clicking on the link will direct you to the project’s intervention: a disclosure form, a brief pretest, the education module, and a brief posttest.

This link is universal, anonymous, and non-tokened. No personal information about you individually will be gathered, and your participation will not affect your employment status in any way. Please consider participating to help increase your knowledge and encourage patients to participate in Medicare annual wellness visits. Thank you.

Sincerely,

Clare Pinder, University of Arizona DNP student

APPENDIX E:

DISCLOSURE FORM
Welcome to the quality improvement project! I am interested in increasing provider knowledge of Medicare annual wellness visits. You will be presented with information relevant to Medicare annual wellness visits and asked to answer some questions about it. Please be assured that your responses will be anonymous and completely confidential. No demographic data will be collected.

The purpose of this project is to increase your awareness of Medicare annual wellness visits and the associated benefits and increase your intent to encourage patients to complete these visits. This module will be open for two weeks and you may complete it anytime between August 12 and August 23, 2019.

The study should take you around 10 (ten) minutes to complete. You will receive no monetary compensation for participating and our participation is voluntary. You have the right to withdraw at any point during the module, for any reason, and without any prejudice. Your employment will not be affected in any way by the completion or incompletion of this education module. If you would like to contact the student conducting the study to discuss this project, please e-mail Clare Pinder at clarepinder@email.arizona.edu.

By clicking the button below, you acknowledge that your participation in the study is voluntary, you are 18 years of age, and that you are aware that you may choose to terminate your participation in the study at any time and for any reason.

Please note that this survey will be best displayed on a laptop or desktop computer. Any computer web browser will load content appropriately. Some features may be less compatible for use on a mobile device.

- I agree, begin the education module
- I do not agree, I do not wish to participate
APPENDIX F:

PRETEST SURVEY
1. Which of the following are requirements of a Medicare annual wellness visit (initial or subsequent)? (Select all that apply).
   - Health risk assessment
   - Baseline labs (CBC, CMP, lipid panel)
   - Cognitive screen
   - Physical examination
   - Detailed family health history
   - Vision and hearing screens

2. What billing codes are correct for an initial/subsequent Medicare annual wellness visit?
   - G0438, G0439
   - Z0348, Z0349

3. How often does Medicare cover a wellness visit?
   - Once every 6 months
   - Once every 9 months
   - Once every 12 months
   - Once every 24 months

4. Do you need to screen for depression during a Medicare annual wellness visit?
   - Yes
   - No

5. Do you feel that preventive care and screening, such as that in the Medicare annual wellness visit, is beneficial for patients?
   - Yes
• Maybe
• No

6. Currently, are you likely to encourage your patients to schedule Medicare annual wellness visits?

• Extremely likely
• Somewhat likely
• Neither likely nor unlikely
• Somewhat unlikely
• Extremely unlikely
APPENDIX G:

EDUCATION MODULE CONTENT
Education Module Content

1. Medicare Annual Wellness Visits: An education module for physicians and nurse practitioners at Northwest Allied Physicians- Fountain Plaza Clinic

2. Medicare Annual Wellness Visits: What is a wellness visit? A visit and discussion between the provider and patient to develop or update a personalized prevention plan and perform a health risk assessment. Annual wellness visits are not routine physical examinations. You may provide other acute services on the same day as a wellness visit (such as EKG, UA, or rapid strep test), but these will not be covered under the wellness visit and the patient will be charged for these additional services.

   a. Medicare annual wellness visits are covered by insurance once every twelve months.

   b. Patient pays nothing out of pocket, unless an acute issue is also treated during the visit.

   c. The patient is eligible after being enrolled in Medicare Part B for twelve months.

   d. Reimbursement by Medicare for an annual wellness visit is higher than the typical office visit.

3. Medicare Annual Wellness Visits: What needs to be done during a wellness visit? This data may be completed by patient or medical assistant before you enter the room:

   • Height, weight, blood pressure

   • Health risk assessment
• Identify all current specialists, medications, and community services being utilized by patient
• Review or update medical and family histories
• Depression screen
• Functional status and safety screen
• Urinary incontinence screen
• Weight loss and malnutrition screen

4. Medicare Annual Wellness Visits: What else needs to be done? This needs to be performed by you during the annual wellness visit (initial or subsequent):

• Cognitive screen using Mini-Cog, Memory Impairment Screen, general practitioner’s assessment of cognition, or Montreal Cognitive Assessment
• Counseling regarding immunizations and age-appropriate and gender-appropriate prevention measures
• Patient-specific advice and appropriate referrals for:
  • Tobacco cessation
  • Weight loss
  • Physical activity and exercise programs
  • Nutrition
  • Fall prevention
  • Other lifestyle interventions to reduce health risks and promote health wellness
5. Medicare Annual Wellness Visits: What does the literature say? A large number of recent articles document the many benefits gained by patients from Medicare annual wellness visits. These include:

- Improved immunization rates
- Increased screening of bone density
- Increased number of screens and appropriate referrals and diagnostic testing for cancers
- Increased screening of mental status and depression
- Increased screening for tobacco use, alcohol use, and alcohol abuse
- Increased awareness of and appropriate referrals for safety within the home and in the community
- Increased access to preventive care for people who previously did not receive preventive care

6. Medicare Annual Wellness Visits: Patient preferences. Recent literature suggests that patients do not like when acute visits are combined with annual wellness visits. This is true, even if they have been told they may have a copay and sign the form, wishing to proceed. Studies show that combining an acute visit with a wellness visit and subsequently receiving a bill often deters patients from the annual wellness visit altogether. Additionally, studies show that patients appreciate the extra time for conversation and explanations during wellness visits. Practical implications: If a patient wants to discuss and be treated for an acute issue during the Medicare annual wellness visit, you may do so. However, the clinic must also bill for an acute visit and in doing so,
the patient will have a copay and may pay more out-of-pocket. You already have a form to ask patients to sign if this is the case but consider changing the entire visit to an acute visit then ask the patient to reschedule their annual wellness visit. This ensures you as the provider have enough time to thoroughly screen and provide preventive care for patients.

7. Medicare Annual Wellness Visits:

   a. Billing codes. Initial: G0438, Subsequent: G0439, First 30 minutes of advanced care planning discussion: 99497, Each additional 30 minutes of advanced care planning discussion: 99498.

   b. Billing for the visit. Medicare will pay for the wellness visit if completed by a physician (MD or DO), nurse practitioner, physician assistant, clinical nurse specialist, health educator, registered nurse, registered dietician, pharmacist, or a team led by a physician.

   c. Reimbursements. The annual wellness visit is reimbursed by Medicare at a higher rate than the typical outpatient visit. This is often $117 to $177 per visit, depending on if it is an initial or subsequent visit. The typical primary care visit is reimbursed for $108.

   d. Diagnosis Codes. This may be any code consistent with the patient’s visit.

8. Medicare Annual Wellness Visits:

   a. Current EHR Location. Currently, your clinic has Cerner and Athena health as electronic health records, some of which are not able to be accessed by all providers. Two different programs must be accessed to determine if a patient is
eligible for a wellness visit, and if so, scanned results of their last visit. This is too complex and cumbersome.

b. Clinic Environment. Your clinic is building support for you to complete more Medicare wellness visits. Management is developing two tools that will help take work away from you and make wellness visits easier. A template is being built for Cerner to allow you to more easily review and find patient data during a wellness visit, so as to eliminate the current paper worksheet. Also, medical assistants will be spending an additional fifteen minutes with wellness visit patients, in order to elicit more information from them prior to you going into the room.

9. Medicare Annual Wellness Visits: Personal Reflection. Reflecting on one’s practice and previous actions is an effective method of learning. This can be done through peer evaluations, chart reviews, or critiques. This can also be accomplished through self-reflection or intermittent data analysis provided by management.

For the purpose of this web-based education module and quality improvement project, please take a moment now to reflect on several of your most recent wellness visits.

• Do you feel that you do provide thorough wellness visits?
• Is there anything you can improve upon?
• Is there an area where you can teach others?
• Do you offer detailed descriptions and explanations of disease processes, preventive care, and lifestyle choices?
10. References.


APPENDIX H:

POSTTEST SURVEY
1. Which of the following are requirements of a Medicare annual wellness visit (initial or subsequent)? (Select all that apply).

- Health risk assessment
- Baseline labs (CBC, CMP, lipid panel)
- Cognitive screen
- Physical examination
- Detailed family health history
- Vision and hearing screens

2. What billing codes are correct for an initial/subsequent Medicare annual wellness visit?

- G0438, G0439
- Z0348, Z0349

3. How often does Medicare cover a wellness visit?

- Once every 6 months
- Once every 9 months
- Once every 12 months
- Once every 24 months

4. Do you need to screen for depression during a Medicare annual wellness visit?

- Yes
- No

5. Do you feel that preventive care and screening, such as that in the Medicare annual wellness visit, is beneficial for patients?

- Yes
• Maybe
• No

6. After viewing this education module, will your intent to encourage patients to schedule Medicare annual wellness visits increase?
• Definitely yes
• Probably yes
• Might or might not
• Probably not
• Definitely not

7. Is there an area you may improve upon when offering wellness visits? If so, please explain.

8. Please answer the following questions related to this education module:

<table>
<thead>
<tr>
<th></th>
<th>Strongly agree</th>
<th>Somewhat agree</th>
<th>Neither agree nor disagree</th>
<th>Somewhat disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>This module was easy to navigate.</td>
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<td>This module was well-organized.</td>
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<td>The content was appropriate for the target audience.</td>
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Thank you for taking the time to participate in this quality improvement project and provide feedback. You are now finished and may exit this screen.
APPENDIX I:

THE UNIVERSITY OF ARIZONA INSTITUTIONAL REVIEW BOARD APPROVAL LETTER
Date: August 05, 2019
Principal Investigator: Clare Hedrick Pinder
Protocol Number: 1908854289
Protocol Title: Web-Based Education for Primary Care Providers on Medicare Annual Wellness Visits
Determination: Human Subjects Review not Required
Documents Reviewed Concurrently:
   HSPP Forms/Correspondence: CHP IRB Application 7.30.2019.pdf

Regulatory Determinations/Comments:
• Not Research as defined by 45 CFR 46.102(l): As presented, the activities described above do not meet the definition of research cited in the regulations issued by U.S. Department of Health and Human Services which state that "Research means a systematic investigation, including research development, testing, and evaluation, designed to develop or contribute to generalizable knowledge. Activities that meet this definition constitute research for purposes of this policy, whether or not they are conducted or supported under a program that is considered research for other purposes. For example, some demonstration and service programs may include research activities. For purposes of this part, the following activities are deemed not to be research."

The project listed above does not require oversight by the University of Arizona.

If the nature of the project changes, submit a new determination form to the Human Subjects Protection Program (HSPP) for reassessment. Changes include addition of research with children, specimen collection, participant observation, prospective collection of data when the study was previously retrospective in nature, and broadening the scope or nature of the study activity. Please contact the HSPP to consult on whether the proposed changes need further review.

The University of Arizona maintains a Federalwide Assurance with the Office for Human Research Protections (FWA #00004218).
REFERENCES


