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The Graduate School

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Quality improvement in provider attitudes towards adherence to comprehensive diabetic care HEDIS standards

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Quality improvement in provider attitudes towards adherence to Comprehensive Diabetic Care

HEDIS standards

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Abstract

Healthcare Effectiveness Data and Information Set (HEDIS) is a quality measurement for standard of care used to rate a health plan or provider's ability to demonstrate clinical effectiveness. Medicare Advantage healthcare plan utilizes HEDIS as a guide for standard of care. Adherence to HEDIS is useful in decreasing chronic disease burden through preventative measures. Diabetes, a disease with high burden, has Comprehensive Diabetes Care HEDIS standards that specifically target providers. Increasing adherence to HEDIS measures is shown to significantly improve health outcomes when used with evidence-based guidelines. The literature shows having high HEDIS scores are not an incentive to adhere to the measures for providers. Furthermore, financial incentives are often not enough of a motivating factor. This project assessed current attitudes, beliefs, and behaviors of primary care providers that service Medicare Advantage patients, implemented a Practice Improvement Module (PIM) intervention and evaluated its effectiveness. With the PIM, there was positive movement in categories relating to relevance, awareness and understanding, behavior control, and impact related to use of HEDIS.

Keywords: physician attitudes, HEDIS measures, diabetes adherence, Quality Target and Incentives survey, Practice Improvement Module

Introduction and Background

The Healthcare Effectiveness Data and Information Set (HEDIS) is a tool used by more than 90 percent of America's health insurance plans to measure performance on important dimensions of care and service (NCQA, 2017). There are 81 measures across five domains of care, which allow health consumers to compare the performance of health plans and providers on an "apples-to-apples" basis. These measures are designed to assess a plan's clinical effectiveness, accessibility to health consumers, and use of resources.

Out of the 81 HEDIS measures, comprehensive diabetic care is a universal quality measurement in primary care practice and is a designated core measure set by CMS. According to the American Diabetes Association, 29.1 million Americans have diabetes (9.3% of the population) and 8.1 million are undiagnosed (ADA, 2016). Diabetes has a high cost burden, $245 billion dollars annually, as well as a long list of complications/co-morbidities including hypertension, dyslipidemia, stroke, blindness, kidney disease and death. HEDIS comprehensive diabetes care addresses many components of this disease by evaluating adherence to achieving blood pressures less than140/90, compliance in diabetic nephrotic patients with an ACE/ ARB class of medication, LDL cholesterol values less than 100, and HgA1C values less than 8 (NCQA, 2017). HEDIS performance measurements rate standards of care and are a compilation of guideline recommendations to prevent further complications of a disease state. Adhering to comprehensive diabetic care HEDIS standards has been shown to decrease hospitalization, emergency room visits, and improve other disease prevention (Burns, 2017).

Managed Care Plans are a type of health insurance companies with contracts between providers and/or facilities to provide care at reduced costs for the patient (CMS, 2016). One such insurance plan is Medicare Advantage that is deemed a value-based insurance plan with

reduction in cost. This reduction in cost assists the patient financially and targets patients with

chronic diseases that have higher burden of care needs. In order to lower costs, there needs to be

a high value in the service provided. HEDIS is an effective measurement tool to gauge the value

by rating the performance of the health plan based on a provider's ability to meet standards of

care. JenCare is a medical center that provides primary and specialty care to Medicare-eligible

patients in the Richmond-Tidewater area (JenCare, 2017). For 2016, JenCare met quality

standard for HEDIS comprehensive diabetic care in the range of 2 stars to 5 stars on a 0-5 scale.

The weakest areas of compliance were medication adherence for diabetic medication, ACE/ARB

class of medication, and statin medication.

Problem Statement

A problem exists in understanding motivating factors of primary care provider adherence to

performance measures. Research shows providers who are dissatisfied or feel they have a lack

of autonomy due to variations in practice of care are frequently not driven to adhere to

standardization in practice guidelines (Waddimba et al, 2010). Many providers view HEDIS as a

bother and a burden to practice (Burns, 2017). HEDIS is geared to consumers' understanding of

provider's compliance to quality standards but is frequently not standard of practice for providers

(NCQA, 2017). Instead, providers use evidence-based guidelines to form their own practice

standards. The inquiry question posed was how do attitudes of primary care providers in a

Medicare Advantage Managed Care Plan affect adherence to outcome measurements for people

with diabetes per HEDIS standards and can practice improvement interventions improve

adherence?

Objectives and Aims

- To determine the attitudes and beliefs of compliance to HEDIS standards regarding Comprehensive Diabetic Care of primary care providers.

- To identify barriers to adherence of HEDIS standards.

- To implement a Practice Improvement Model and measure its effectiveness to improve HEDIS adherence.

Review of Literature

A literature search supports the need to further investigate the problem of understanding provider adherence to quality measures. Search engines used were CINAHL, Google Scholar, and PubMed databases. The key terms included physician attitudes toward HEDIS measures, HEDIS, provider adherence, and diabetes mellitus type II. Inclusion criteria were limited to research articles, managed care clinics, medication compliance, and dates 2006-2017. Fee-for-service research articles were excluded. The search yielded 12 research articles that reflect the current state of knowledge on this topic.

The literature search provided information about factors impacting adherence to HEDIS. Tarn et al (2012) looked at the measurement of medication adherence as a HEDIS standard. Through this observational study, it was noted that providers are reluctant to adhere to this HEDIS standard because the providers do not directly confront their patients about adherence to medication usage nor do they encourage adherence. The authors emphasized that medication adherence is not a responsibility of the patient but should be a shared responsibility between the provider and the patient. This research supports the idea of clinical inertia in which patient non-adherence is a reflection of lack of adherence by the healthcare provider to current guidelines

and the absence of synergy between a patient's behavior and their medical recommendation (Reach, 2008). There is room to improve in HEDIS adherence by promoting interactive discussions and building a stronger provider-patient trusting relationship (Tarn et al, 2012). By meeting the HEDIS standard of medication adherence, providers can identify patients that may be taking high-risk medications and also decrease drug-disease interactions (Pugh et al, 2013). The decrease of adverse drug-disease interaction should be incentive to adhere to this HEDIS standard. By increasing contact with the patient, adherence to this measure increases (Akincigil et al, 2007). Meeting this HEDIS standard supported providers' needs to change their own practice patterns by reporting more frequent visits and interactions with their patients

There was reluctance for providers to adhere to HEDIS standards as they feel it did not align with evidenced based guidelines and their HEDIS quality score did not indicate quality of practice (Sanfelix-Gimeno et al, 2014). Even when the medication choices were supported by evidence-based guidelines, adherence was not guaranteed. In a study evaluating the use of beta-blocker medication in post-MI patients that mirrors the HEDIS standard of medication adherence, there was no statistical significance in outcomes for beta-blocker medication usage. Research supports early contact with the patient post-MI with frequent follow up visits to improve patient education and provider-patient collaboration increased provider adherence. Adherence to HEDIS standards improves health quality due to increase in patient touches as evidenced by Foley et al (2007) when they reported decreased fragility fractures. This was due to an increase in follow up visits or patient touches allowing more screening opportunities for osteoporosis.

The most common theme when assessing provider adherence to HEDIS standards was financial incentives as a motivating factor (Henke et al, 2008; O'Connor et al, 2010; Waddimba et al, 2010). Waddimba et al (2016) revealed that many providers are discontented in their

practice and dissatisfied overall in job experience. When evaluating motivational incentives, those that were more likely to comply have increased job satisfaction. Efforts to maintain or improve satisfaction among physicians (providers) should focus on encouraging professional autonomy to see adherence to quality measures as a valuable tool (Waddimba et al, 2013). The overall attitude, beliefs, and behaviors of the providers ultimately guide practice (Waddimba et al, 2010). Adherence rates to quality standard measurements were increased with a positive attitude rather than a financial incentive related to the concepts of intrinsic and extrinsic motivating factors. Waddimba et al (2013) used Motivation-Hygiene Theory, Self-Determination Theory, and Motivation Crowding Theory to support the intrinsic need to have autonomy and control over various aspects of practice. These authors used the Quality Target and Incentives Survey, which will be discussed later in this document, to assess how intrinsic motivating factors can positively impact adherence to quality standards.

Research noted positive impacts of HEDIS adherence with outcome improvement. Eddy et al (2008) showed improved outcomes through analysis of HEDIS adherence for cardiovascular and diabetes measures from 1995-2005. Improved outcomes are noted through prevention of 1.9 million myocardial infarctions, 0.8 million strokes, and 0.1 million cases of end-stage renal disease. They also noted that adherence to HEDIS blood pressure control had the largest potential effect on quality at the national level. In a longitudinal study by Harman et al (2010), diabetic HEDIS adherence was compared to outcome measurements as reported by Health Outcome Survey issued by Medicare (HOS). The researchers showed improvement in quality of care results in better health among those with diabetes when HEDIS measures and HOS surveys correlate with high results.

Based on the review of literature, there is a need to further understand the motivating factors that influence a provider's choice of clinical practice standards. Encouraging adherence to quality standards such as HEDIS supports improved patient outcomes and may be used in conjunction with evidenced based guidelines. Intrinsically motivating providers through changing their attitudes, beliefs, and behaviors is essential to increase adherence and enhance opportunities to promote better patient health outcomes.

Theoretical Model

Lewin's Change Theory guided this project. This theory is a three-staged model that is also known as the unfreezing-moving-refreezing model (Nursing Theory, 2016). Manchester et al (2014) noted this model to be effective in evaluating quality improvement processes of adherence to practice standards through the collaboration of stakeholders and health professionals. The learning process for translation of evidence into quality improvement standards is dynamic and collaborative. The stages of the model can transition via continuing education scenarios. These scenarios can use focus groups, interviews, observations, and documents review. A visual diagram is included as Appendix A (Nursing Theory, 2016).

The first stage, unfreezing, is the process of assessing current habits or in this case, attitudes and beliefs toward current practice. This is a necessary concept to overcome any individual or group barriers to improve group conformity. The moving stage allows a process of change through interventions that result in change of thoughts, feelings, and behaviors. This allowed the group to have better patient outcomes by completing interventions that are aimed to improve adherence to practice standards through phase two educational interventions. In refreezing, new behavior becomes a habit and standard operating procedure. It is important for the solidification of behavior decreasing the reemergence of old behaviors.   Formative

evaluation processes can improve adherence to quality standards (Manchester et al, 2014). For

purposes of this project, the evaluation process is the dissemination of knowledge gained through

attitude assessment after practice improvement interventions.

Project and Study Design

This quality improvement project used multiple methodologies to assess and change

attitudes towards adherence to HEDIS standards by intrinsically addressing provider attitudes

and beliefs.

Setting and Resources

The project was conducted at the JenCare locations in the Richmond and Tidewater areas

of Virginia. JenCare is a medical center that provides primary and specialty care to Medicare-

eligible patients (JenCare, 2017). There are eight locations in Virginia that partner with specific

hospitals and skilled nursing facilities to coordinate care with a goal of providing optimal patient

centered care. Supportive stakeholders include but are not limited to the Market Medical

Director, Market Operations Director, Director of Quality and Safety, as well as leadership in

corporate headquarters. These stakeholders have a responsibility to daily review and analyze

HEDIS data. These stakeholders aided in the recruitment process and are supportive of

increasing adherence to HEDIS standards.

Study Population

The study participants were a collective sampling of the primary care providers at the

JenCare clinics in the identified Virginia locations. There are 26 providers (24 MDs and 2 NPs)

that provide direct patient care at these settings. Credentials of the providers include Medical

Doctors (MD) and Nurse Practitioners (NP). Table 1 outlines population demographics. The

short length of employment is due to the fact that JenCare has only been an operational clinic in

the Virginia market for less than 6 years and there has been a rapid patient volume growth to

support the shortened length of employment. The two nurse practitioners were from the

Tidewater market. A fulltime employee is targeted to have a patient panel of 300 or more.

Table 1: Demographics

Years of Clinical Practice	1-35 (14)
Patient Panel Size per Year	0-440 (210)
Years of Employment with JenCare	0.1-5 (2)

Mean in parentheses

Project Methodology

      Phase One: Pre-Intervention Survey

      Initially, the Quality Target and Incentives Survey (*Appendix B*) assessed primary care

providers' attitudes, beliefs, and behaviors toward HEDIS measurements. It was used to

examine the current status quo or practice environment. This survey was designed by Meterko et

al (2006) as a pilot to assess provider attitudes towards pay-for-performance incentives. This

survey consists of six dimensions or constructs labeled impact, clinical relevance, awareness and

understanding, cooperation, unintended consequences, and control. The survey has strong

internal consistency reliability (Cronbach's α coefficients) ranging from 0.50 to 0.80.

Consistency between the results of the psychometric analyses and the general literature on

guideline adherence provides support for the construct validity of the six dimensions. The

authors recommend this instrument's use in similar studies to assess provider attitudes.

      The survey was administered in paper format at a weekly clinician meeting held at JenCare.

The study participants were allotted 15 minutes to complete the survey as recommended by study

authors. The researcher was present during survey administration to keep time, clarify

instructions, and ensure anonymity of surveys as they were placed in an envelope.

Phase Two: Intervention

Feedback was given to JenCare providers of current Comprehensive Diabetic Care per HEDIS standards from HUMANA data claims. Table 2 outlines a summary provided to participants. This feedback was reported to each provider in Excel format with "compliant" or "noncompliant" noted for each HEDIS measurement. Data for Comprehensive Diabetes Care was collected on identified diabetic patients to include capturing one HgA1C value less than 9%, LDL cholesterol value less than 100mg/dL, evidence of treatment with ACE inhibitors or ARBs, annual microalbuminuria evaluation, and blood pressure measurement less than 140/90. A rating of 5 is considered compliant in each measure. Appendix C outlines the evidence that supports the basis for each of these categories.

Table 2: HEDIS PCP Compliance Report Summary by Market

Market	Average Rating	HgA1C	Cholesterol	ACE/ARB	Microalbuminuria	BP <140/90
Richmond	4.12	3.97	3.95	4.72	5	4.56
Tidewater	4.1	4.47	3.56	4.32	5	5

The next stage of the intervention was a review of the pre-intervention survey by the researcher. The study participants were not given the results of the survey. The survey results guided the next steps of the intervention and determined which areas of current status quo or attitudes needed attention.

The active stage of the intervention used the Practice Improvement Module (PIM) as detailed by Holmboe et al (2006). This module is also called the American Board of Internal Medicine Diabetes Practice Improvement Module by the study authors; the name is used interchangeably. The PIM guided three separate points of contact during the intervention phase (see Timeframe page 15). The first step of this module was an assessment of practice

performance, which was completed via the HUMANA HEDIS CDC information. Next steps

were a self-directed medical audit, practice system survey, and/or patient survey as per the PIM.

These steps were modeled and tailored to fit the needs identified in the initial survey of the

participants. The areas that had low scores in the initial survey were clinical relevance,

awareness and understanding and control (Figure 1). The clinical relevance dimension was

addressed by power point and handouts to the clinicians through review of evidenced-based

research that support the HEDIS guidelines (*Appendix* C). The researcher walked the providers

through the process of extracting HEDIS CDC data from HUMANA and internal chart review

processes for the intervention tailored for the awareness and understanding dimension, (*Appendix*

D). The low survey scores for the control dimension were addressed through an intervention that

allowed open discussion and review of two theories that support practice behavior (*Appendix E*).

Phase Three: Post-Intervention Survey

The same Quality Target and Incentives Survey (*Appendix B*) was administered post-

intervention. The refreezing stage of Lewin's Change theory was an opportunity to re-survey

those providers to determine how well they will continue to strive for high performance rating

scores and ultimately see a change in their motivation toward HEDIS adherence. This phase was

meant to solidify positive intrinsic attitude changes through comparison of questionnaire results.

Sources of Data

Numerical data for HEDIS was collected based on HUMANA claims and filtered to

include only HEDIS measurement criteria exclusive of patient identifiers. The HUMANA

claims included the specified Virginia JenCare locations and was reported as "compliant' or

"noncompliant" for each CDC HEDIS measurement.

Data Analysis

This was a mixed methods QI project of attitudes/beliefs held by primary care providers in regard to HEDIS adherence. Appendix B is the Quality Target and Incentives Survey that assesses current knowledge, attitude and practice patterns and establishes a baseline that guided the intervention. The survey used a Likert scale with 21 standard and four open-ended questions to allow narrative answers for demographic data. The pre and post surveys were analyzed with SPSS for quantitative evaluation.

Ethics and Human Subjects Protection

The project does not pose individual risks from participants' involvement in this study. The James Madison University's Institutional Review Board (IRB) approved the project in an expedited review. Approval and support have been received from leadership within the JenCare Company. JenCare does not have an IRB committee.

To assure quality of the study, the results of surveys were anonymous. All documents including HEDIS data and survey results were securely kept on a password-protected personal computer owned by the researcher. The data was available to the researcher and DNP Project Team Members throughout analysis completion. After information is disseminated to stakeholders, the data will be destroyed.

Timeframes or Timeline

Initial survey assessing attitudes toward HEDIS adherence was disseminated April 2017. The initial data of HUMANA claims of provider adherence to HEDIS standards was compiled after March 2017 to reflect the first 3 months of the calendar year. The intervention was implemented at the clinician monthly meetings in May, June, and July 2017. A post-intervention survey was distributed in July 2017 with HUMANA HEDIS adherence claims review after July

2017 to reflect the first 6 months of the calendar year. Dissemination of knowledge gained

through the study will be available to stakeholders after the DNP Project Team reviews all data.

Budget

There were no perceived budgetary requirements. There was not a need for

administrative costs, overhead fees, or other financial accommodations needed for study

participants or the researcher. The project director completed the project on unpaid time.

Results

Of the 26 participants, only 16 completed both surveys. There were no blinded

identifiers to link the pre and post surveys. Descriptive statistic results for each of the categories

showed improvement between the pre and post survey except in the category of unintended

consequences. This category was an exception in which a negative change was desired to

support the reflection that adherence is not an desirable aspect of achieving quality outcomes.

Figure 1: Survey Results

Category	Pre Survey Mean	Pre Survey Standard Deviation	Pre Survey Range	Post Survey Mean	Post Survey Standard Deviation	Post Survey Range	Mean Difference
Impact	22.5	3.35	14	22.875	3.19	9	+0.375
Clinical Relevance	12.807	2.28	11	13.3125	1.40	3	+0.506
Awareness & Understanding	16.7692	3.67	19	17.7500	4.34	14	+0.981
Cooperation	7.3077	1.91	8	7.8750	1.82	6	+0.567
Unintended	7.8077	1.47	5	7.3750	1.92	7	-0.433

Consequences							
Locus of Control	9.3462	2.21	10	10.5625	2.53	8	+1.216

Discussion

The interventions for this project were tailored for the areas of clinical relevance, awareness and understanding, and locus of control since those categories had the lowest scores in the pre-survey. Despite the interventions being tailored to those three particular categories, there was positive change in each category except unintended consequences in which the negative change was desired. The category with the smallest noted change was impact but it previously had high scores in the pre-survey. There was not a ceiling effect in the category indicating there is understanding of how adherence can impact health outcomes. More discussion regarding each category helps understand the descriptive results of the survey.

In the category of impact, one question with a greater change in response was "I have changed my practice behavior to obtain this incentive" noted an increase of 38% agreeing with this statement. Also the question, "Overall, my patients who are the focus of this incentive are getting better care" had a more notable response in the post survey with an increase of 10% strongly agreeing with this statement. Placing more focus on these types of patients emphasizes the idea that primary care providers have strong beliefs that HEDIS CDC quality measures have a positive impact on patient outcomes and improves care.

"This incentive is tied to a quality target that is clinically meaningful" is one of the questions under clinical relevance in which there was an increase of strongly agree responses from 38% to 50%. The first intervention between the surveys was an open discussion between

providers with a hand out of the NCQA evidenced based studies that are the basis of the quality

standards. A review of the evidence-based practice that guides the standards was done

contributing to improvement in the knowledge.

The category of awareness and understanding was an opportunity for the primary care

providers to gain knowledge of how the quality standard is tabulated both externally and

internally through insurance companies. It also showed improved knowledge of the star metrics

and how individual compliance reports are formulated. The improvement in this category is

reflected through positive changes in questions like "I know the amount of the financial incentive

I/my practice will receive if I achieve the quality target", "I have adequate information about the

definition of the quality target", and "I get useful feedback regarding my progress toward

achieving the quality target". This statement indicates improvement towards knowledge of how

the quality measures are tabulated.

The cooperation category also noted positive movement but the interventions were not

tailored for this category. These two questions examined attitudes and beliefs about peer support

and staff support in adherence to the quality target. Improvement in this category was due to the

active nature of the survey as the primary care providers were objectively looking at their

practice habits with the forethought of wanting to achieve the highest standards. The second

intervention tailored towards awareness and understanding may have also subjectively improved

this category as the primary care providers had improved understanding of how the target is

tabulated and therefore had a better understanding of the work as a team it takes to achieve the

highest metric.

The category of unintended consequences was one that showed more providers stated

they strongly disagree with the idea that there was adverse impact on other patients not the focus

of HEDIS CDC standards. There was also less support of the idea that adherence hindered the

provider from providing other essential medical care not listed in the standard. The shift in mean

supports the providers' attitude and beliefs were less negative toward adherence after the three

interventions.

          The greatest change was in the control category. The last intervention promoted

discussion regarding intrinsic motivating factors that guide a provider's practice. The question

"The actions necessary to obtain this financial incentive are largely within my control" had zero

strongly agree responses in the pre-survey but nearly half of the responses were in support of this

question in the post-survey. As evidenced in the literature, many providers do not strive for

adherence to quality standards due to perceptions of lack of autonomy, lack of practice control

due to financial incentives, and feelings of burden in practice flow (Henke et al, 2008; O'Connor

et al, 2010; Waddimba et al, 2010). Through self-reflection, providers demonstrated that they do

have a sense of control in how this incentive can impact overall outcomes. This intervention

allowed self-reflection into the areas that affect intrinsic factors of control like confidence,

looking at personal needs, and support of how their behavior relates to their beliefs. This

category touched on each objective and aim for this project as well as addressed the problem

statement.

Strengths and Weaknesses of the Study

          Strengths of this study include investment by stakeholders and providers to improve

outcomes. The sample is small but a good representation of a specific type of clinic setting.

Another strength is that this methodology can be used for other HEDIS measures in the future.

Few studies in the review of literature assess provider attitudes but through assessing attitudes in

this study, the goals of improved health outcomes, provider ownership, empowerment, and

enhanced satisfaction is achievable. The timeframe allowed for a quick analysis of areas needing

improvement. Cost was not a factor as there were no budgetary requirements including no

administrative costs, overhead fees, or other financial accommodations needed for study

participants or the researcher. The researcher completed the project on unpaid time. Replication

of this project would require minimal financial costs and human resource hours due to the nature

of the interventions. The project could be incorporated into daily tasks or workflow for

participants.

   The shortened time frame was a weakness along with the limited number of responses.

Due to the shortened timeframe, the refreeze phase will occur outside of the project timeline, as

it is not a variable being measured in this project. There was inability to use the HEDIS scores

as a dependent variable since they are tabulated by HUMANA annually as opposed to the

timeframe of this project. However, HEDIS score comparison was not a part of the clinical

question. HEDIS scores may or may not be affected by assessing attitudes since the HEDIS

scores are already high. There is an assumption that documentation is consistent and accurate to

ensure HEDIS data is captured even though JenCare has a HEDIS team to ensure data is tracked.

The small sample size without blinded variables impacted the ability to run statistical tests to

show significance in the results but the descriptive statistics are comprehensive for initial

analysis.

<div align="center">**Conclusion**</div>

  Analysis of primary care provider attitudes, beliefs, and behaviors towards adherence to

HEDIS standards can determine areas of needed intrinsic improvements. With the guidance of

Lewin's Change Theory, Practice Improvement Modules were used to change any negative

attitudes or barriers to adherence. Positive changes were noted in the areas of relevance to

practice, awareness and understanding, and personal control. If these areas show improvement with more provider investment, there is assumption that provider adherence will improve. Improvement in provider adherence scores ultimately will result in improved overall health outcomes for the patients. The results of this quality improvement project can be used by the practice sampled and by other Managed Care centers to empower providers to adhere to quality standards relevant to their patient population like HEDIS Comprehensive Diabetic Care. Incorporation of the Practice Improvement Model as a training for providers can increase self-awareness regarding knowledge, attitudes, and beliefs that impact standard of practice. Improvement in provider adherence scores ultimately will result in improved overall health outcomes.

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Appendix A- Kurt Lewin's Change Theory
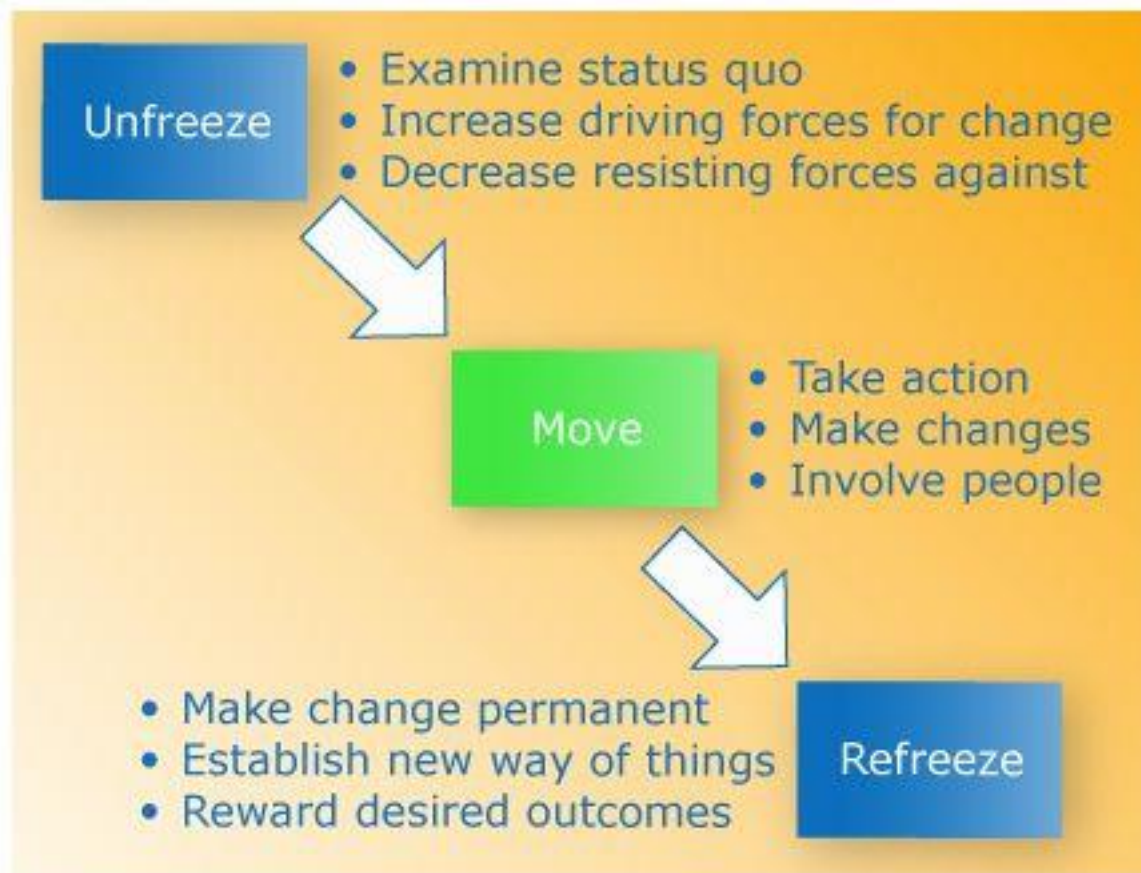
Appendix B- Quality Target and Incentives Survey

Demographics:

1. Years of clinical practice
2. Clinician Type/Certification
3. Patient panel size
4. Length of employment with JenCare

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Impact					
I invest extra time and effort in the care of those patients who are the focus of this incentive.	1	2	3	4	5
I have changed my practice behavior to obtain this incentive.	1	2	3	4	5
Overall, my patients who are the focus of this incentive are getting better care.	1	2	3	4	5
I would be just as focused on this quality target without the incentive.	1	2	3	4	5
Obtaining the incentive brings me favorable recognition from my	1	2	3	4	5

colleagues.					
The quality target helps me focus my time and effort constructively.	1	2	3	4	5
Clinical Relevance					
The incentive aside, reaching this quality target is good for my patients	1	2	3	4	5
This incentive is tied to a quality target based on sound medical science	1	2	3	4	5
This incentive is tied to a quality target that is clinically meaningful	1	2	3	4	5
Awareness and Understanding					
I have adequate information about the scoring system used to compute the incentive amount.	1	2	3	4	5
I know the amount of the financial incentive I/my practice will receive if I	1	2	3	4	5

achieve the quality target					
I receive useful assistance in response to my questions or concerns regarding the data related to this quality target.	1	2	3	4	5
I get useful feedback regarding my progress toward achieving the quality target.	1	2	3	4	5
I have adequate information about the definition of the quality target.	1	2	3	4	5
Cooperation					
I am able to get the cooperation of other physicians as needed to obtain this financial incentive.	1	2	3	4	5
I am able to get the cooperation of support staff as needed to obtain this financial	1	2	3	4	5

incentive.					
Unintended consequences (UC)					
The effort required to obtain this financial incentive has an adverse impact on other types of patients in my practice.	1	2	3	4	5
Efforts to obtain this financial incentive hinder me from providing other essential medical services to this group of patients.	1	2	3	4	5
Control					
Physicians are on a level playing field for obtaining this incentive.	1	2	3	4	5
The actions necessary to obtain this financial incentive are largely within my control.	1	2	3	4	5
The data used to assess achievement of	1	2	3	4	5

the quality target are accurate.					

Appendix C- Intervention 1:Evidence-Based Research that Supports HEDIS Guidelines

Glycemic Target	- Goal: **HgA1C <9** - Appropriate for histories of severe hypoglycemia, limited life expectancy, advanced microvascular or macrovascular complications, extensive comorbidities, or long standing diabetes with multiple glucose-lowering agents including insulin - HEDIS guidelines: - Perform the A1C test at least two times a year in patients meeting treatment goals (and have stable glycemic control) - Perform the A1C test quarterly in patients whose therapy has changed or who are not meeting glycemic goals - Use of point-of-care testing for A1C allows for timely decisions on therapy changes, when needed. **Diabetes Control and Complications Trial**: prospective randomized control trial comparing intensive vs standard glycemic control in patient with type 1 diabetes showing decrease development and progression of microvascular and neuropathic conditions. **A1C-Dereived Average Glucose Study**: notes correlation between A1C and SMBG/CGM at premeal, postmeal, and bedtime
Hypertension Control	- Goal: **Blood pressure <140/90** - HEDIS guidelines: - Blood pressure should be recorded at every visit - Patients with an elevated blood pressure should have a blood pressure confirmed on a separate day - Other cardiovascular risk factors need to be assessed annually like family history of premature coronary disease, smoking, albuminuria, and dyslipidemia **Action to Control Cardiovascular Risk in Diabetes (ACCORD) Trial**: strong correlation between strict blood pressure control and glycemic control noted with 3.4 medications average **ADVANCE Trial**: reduction in microvascular or major macrovascular event **Hypertension Optimal Treatment (HOT) Trial**: post hoc analyses noted cardiovascular benefits when combined with ACCORD and ADVANCE trial data

Lipid Management	- Goal: **LDL <100** - HEDIS guidelines: - Measure fasting lipid profile at least annually - Treatment to achieve goal is not limited to statin therapy but in addition to lifestyle therapy - Multiple clinical trials have demonstrated beneficial effects of statin therapy on ASCVD
Diabetic Kidney Disease	- Goal: **ACE/ARB compliance** - HEDIS guidelines: - ACE or ARB at maximum tolerated dose for blood pressure treatment when urinary albumin-to-creatinine ratio ≥ 300 mg/g creatinine or 30-299 mg/g creatinine - Meta-analysis study demonstrated treatment with ACE or ARB in diabetic kidney disease reduces end-stage renal disease (National Kidney Foundation**: KDOQI clinical practice guidelines** for diabetes and CKD) **CHARM Trial**: ARBs have been shown to decrease ASCVD with heart disease and diabetes **RENAAL Study**: studied effects of losartan on cardiovascular effect of nephropathy

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Appendix D- Intervention 2: HEDIS Data Extraction Process

How is HEDIS data computed?

1. What does the HEDIS process look like at ChenMed?
   a. It is run in two ways: Internal Gap Data and External Gap Data

2. What is Internal Gap Data?
   a. It is generated by our EMR data as well as claims data and is based on the NCQA HEDIS specifics
   b. Used when ChenMed does not have health plan gap reports to try to generate the most accurate data
   c. Relied primarily on these reports from Jan 1 through the time ChenMed starts getting health plan gap reports (usually around May)

3. What is External Gap Data?
   a. Received from the health plans (CMS doesn't run the HEDIS data, the health plans do and CMS audits them)
   b. Generally occurs monthly starting around May but it varies by plan
   c. The health plan does not drop a gap on their side for 2-3 months so internal reports continue simultaneously

4. How do Primary Care Providers know how well they are doing?
   a. Reports are sent to PCPs via email
   b. It is a combination of both Internal Gap Data and External Gap Data (usually ChenMed will define by measure which is most up to date and accurate and use that one)

5. Who is the HEDIS team?
   a. The central HEDIS team has 6 FTEs who do full time chart reviews on the measures that can be closed through supplemental data
   b. The team sends what they find to the health plans to help close those gaps (i.e, colonoscopy records, DM eye exams, etc).

Appendix E- Intervention 3: Behavior Control Reflection

"Before a practice guideline can affect patient outcomes, it first affects physician knowledge, then attitudes, and finally behavior. Although behavior can be modified without knowledge or attitude being affected, behavior change based on influencing knowledge and attitudes is probably more sustainable than indirect manipulation of behavior alone." (Borkowski & Allen, 2010)

Attribution Theory: Process of how a person explains their own behavior based on their belief. Can be thought of in terms of internal-external causes, controllable-uncontrollable causes, and stable-unstable causes.

Self-Actualization Theory: Process of looking at an individual's growth toward fulfillment of highest potential. aka Theory of Human Motivation from Maslow's hierarchy of needs.

Ask yourself as a primary care provider:
- Do I use HEDIS quality standards as a practice guideline?
- Do I trust that HEDIS guideline development is motivated by desire to improve quality of care?
- Do I see how my patient directly benefit by adhering to HEDIS quality standards?
- Do I believe these measures are educational tools?
- Do I think there is cost reduction in healthcare by utilizing HEDIS quality standards?
- Do I gain confidence as a professional supporting HEDIS quality standards within an interprofessional team and managed care organization?

Research shows that lack of provider adherence to quality standard guideline stems from external, uncontrollable, unstable causes.

Reflection on self can impact the internal, controllable, and stable factors in practice and improve outcomes through increasing adherence.

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