

REDUCING NO-SHOW RATES AT AN URBAN COMMUNITY HEALTH CENTER

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Dedication

I dedicate this work to my husband, Trinh, and my parents who endlessly supported me through all these years to follow my passion.

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Abstract

Missed appointments or “no-shows” are known to interfere with the continuity of patient care, contribute to health consequences, and increase hospitalization rates. The aim of this Doctoral in Nursing Practice (DNP) quality improvement project was to implement evidence-based (EB) practice interventions to reduce the no-show rate at Kalihi Pālama Health Center (KPHC).

The Stetler Model was used as a framework to guide this DNP project. A review of the literature revealed that a combination of interventions was most effective to reduce no-show rates. A combination of motivational interviewing, open access scheduling, and patient education was implemented for five months at KPHC’s main clinic. All new and established patients from the Adult Medicine Department who missed an appointment between July to November 2017 received a follow-up phone call by a medical assistant (MA) or community health worker (CHW). Staff attended two one-hour motivational interviewing trainings and bi-monthly team meetings to evaluate the practice change. A pre- and post-questionnaire was given to staff and a no-show report was generated six-months prior to implementation and post-implementation.

As a result, the no show rate reduced from 19.8% to 16.8%. The feedback received from staff showed that following up with no-show patients using the three interventions helped increase appointment attendance and appropriate cancellations/rescheduling. This indicates that the combination of interventions was effective in reducing patient no-shows, increasing staff engagement with patients, and; ultimately, increasing patient access to health care and improved health outcomes.

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CHAPTER 1. EXECUTIVE SUMMARY

Introduction

Background/Problem

Missed appointments, commonly known as “no-shows,” delay health services, contribute to adverse health consequences and possible hospital admissions, reduce clinical productivity and resources, reduce appointment availability, and compromise the continuity and quality of care for patients (DuMontier, Rindfleisch, Pruszynski, & Frey, 2013; McLean et al., 2016). Reasons for no-show include forgetfulness, transportation problems, affordability, insurance coverage, language/cultural barriers, and inconvenience (Zeber, Pearson, & Smith, 2009). The purpose of this Doctoral in Nursing Practice (DNP) quality improvement project was to implement evidence-based (EB) practice interventions to reduce the no-show rate among the Adult Medicine Department at KPHC main clinic.

Conceptual Framework

The Stetler Model of Research Utilization to Facilitate Evidence-Based Practice was used as a framework to guide this DNP project. This model provides a series of critical thinking and decision-making steps, designed to facilitate safe and effective use of evidence for practice change (Stetler, 2001). The five phases of this model consist of: 1) preparation, 2) validation, 3) comparative evaluation/decision making, 4) translation/application, and 5) evaluation (Stetler, 2001).

Literature Review & Synthesis

An electronic search was completed using PubMed and CINAHL. Search terms included “no show patients”, “missed appointments”, “appointment and schedules”, “ambulatory care”, “primary health care”, “community health centers”, “office visits”, and “patient compliance” using Boolean operators. Eighteen pertinent articles were critiqued and

synthesized, revealing that a combination of interventions was most effective to reduce no-shows, if targeted to a specific group of high-risk patients.

Innovation and Objectives

Based on EBP findings and the collaboration with stakeholders at KPHC, a combination of interventions was implemented and evaluated. The innovations included motivational interviewing, open access scheduling (i.e., double-booking), and patient education.

Methods

Design

An EB practice approach, using the Stetler Model, was initiated to develop, implement and evaluate current practices and the effectiveness interventions to reduce no-show rates.

Practice Change Description

This EB practice change was anticipated to continue and strengthen the current no-show protocol by piloting an additional combination of interventions that involved motivational interviewing, open access scheduling, and patient education by follow-up phone calls from MAs and CHWs for five months. Before implementation, two one-hour motivational interviewing trainings were held in the month of July 2017.

Setting & Sample

The KPHC main clinic is in an urban inner-city of Kalihi in the County of Honolulu, Hawai'i serving predominantly the Asian and Pacific Islander patient population. The main clinic has a team of physicians, advanced practice nurse practitioners (APRNs), a triage nurse, medical assistants (MAs), registered nurse (RN) care coordinators, community health workers (CHWs), and supportive staff (i.e., receptionists and eligibility/health insurance workers). The target population was focused on new and established patients in the Adult

Medicine Department who “no-show” within the time period of July to November 2017. MAs and CHWs identified these patients by reviewing the schedule by the end of the day. They called patients using a combination of motivational interviewing, open access scheduling, and patient education with the guidance of no-show checklist template.

Data Collection

The no-show rate was evaluated by comparing the average no-show rate six months prior to implementation period from January to June 2017 and the no-show rate at the end of the five months (July – November 2017) of implementation using i2iTracks. The report categorized no-show rates based on demographics such as age group, ethnicity, and chronic disease (i.e., Type 2 Diabetes Mellitus, Hypertension, or Both). A pre- and post-implementation staff survey was distributed to qualitatively evaluate staff engagement and adherence to the new practice change.

Results

Description of Participants

A convenience sample included new and established patients in Adult Medicine Department who “no-show” within the time period between July to November 2017. These patients were tracked and followed-up by a phone call.

Data Analysis Findings

The overall no-show rate was measured before and after implementation to assess the impact of the EB practice change. In the five months of implementation, the no-show rate decreased from 19.8% (1 month pre-implementation) to 16.8% (1 month post-implementation). Based on the staff post-implementation questionnaire, staff reported that the three interventions made a difference in improving patient attendance rates and their ability to appropriately cancel/reschedule appointments.

Discussion

Interpretation of Results

The goal of this EB practice quality improvement project was met. Through the combination of motivational interviewing, open access scheduling, and patient education, the no-show rate decreased by 3% after five months. This enabled greater patient access to care and appropriate utilization of health care services by focusing on staff engagement with patients and adherence to standard of care no-show protocols.

Implications

Team-based collaboration, cultural awareness and goal setting were key factors that made this EB practice quality improvement project feasible. With these result findings, future plans are projected to institutionalize the combination of interventions to the rest of KPHC departments and clinics.

Limitations

Quality improvement projects are subject to have many limitations. This DNP project was implemented and evaluated for five months. The fluidity of the environment, such as the patient population, high staff turnover and competing priorities in the organization, impacted the variables, subjects and outcomes. In addition, there were unpredictable and inevitable challenges that could not be controlled such as patients who were difficult to reach by phone/mail and refused care.

CHATER 2. PROBLEM

Introduction

Missed appointments or “no-shows” have been a heavy burden for all health care institutions. No-shows are defined as patients who did not attend a scheduled appointment (Reid et al., 2015). Patients often missed scheduled appointments due to forgetfulness, barriers to access such as affordability, physical accessibility, transportation, health status, health beliefs, insurance coverage, language/cultural barriers, emotional resistance, inconvenience, and time gaps before the next scheduled appointment (Zeber, Pearson, & Smith, 2009). As a result, no-shows delay health services, reduce clinical productivity and resources, contribute to adverse health consequences and possible hospital admissions, increase costs of care delivery, reduce appointment availability, reduce patient satisfaction, and compromise the continuity and quality of care for patients (DuMontier, Rindfleisch, Pruszynski, & Frey, 2013; McLean et al., 2016). The financial impact associated with no-show appointments can total nearly 15% of a clinic’s annual income (Zeber, Pearson & Smith, 2009). The purpose of this DNP project is to implement and EBP interventions to reduce the overall no-show rates among the adult population at KPHC Main Clinic. This chapter will present the background, conceptual framework, literature review and synthesis, and recommended interventions based on evidence, to reduce patient no-show rates.

Background

Missed scheduled appointments or “no-shows” is a universal problem for outpatient medical practices serving underserved, vulnerable communities. This poses a substantial systems problem in primary care and impacts the health of the patient and treatment outcomes (DuMontier et al., 2013). No-show rates at outpatient clinics range from 12-80%, resulting in revenue losses exceeding 20% (Reid et al., 2015). Studies around the world

consistently report no-show rates between 15-30% in outpatient health clinics (McLean et al., 2016). A systematic review of missed appointments found an estimated cost over 600 Euros (or \$970 million U.S. dollars) in the United Kingdom (McLean et al., 2016). In the United States, community health center no-show rates ranged from 5% to 55% (DuMontier et al., 2013). According to Kheirkhah et al. (2016), the average cost per no-show patient is \$196. Another cohort study found that the marginal cost of no-shows for all of their 10 clinics summed up to be \$28.66 million dollars (Kheirkhah et al., 2016).

As mentioned earlier, unfilled appointments reduce clinical productivity, reduce appointment availability, contribute to adverse health consequences for patients, and increase costs of care delivery (McLean et al., 2016). Delays in health care services lead to worsening of chronic conditions, unnecessary suffering, and costly ER/hospital admissions (McLean et al., 2016). This compromises the continuity and quality of patient care and jeopardizes a clinic's ability to appropriately treat vulnerable patients (DuMontier, Rindfleisch, Pruszynski, & Frey, 2013). Studies have shown that patients who no-show in primary care often use the Emergency Department (ED) as sources of both primary and chronic care, driving up costs and straining hospital systems (DuMontier et al., 2013).

Common reported reasons for no-shows include forgetfulness, financial costs, transportation problems, language/culture differences, health beliefs, emotional resistance, inconvenience, and time gaps before the next scheduled appointment (Zeber, Pearson, & Smith, 2009). Studies have also revealed that routine and preventative screening care may be viewed as lower priorities relative to other needs. For that reason, follow-up appointments, chronic care management, and schedule procedures are missed more frequently than acute illness visits (Zeber, Pearson, & Smith, 2009).

Problem

KPHC is an independent, 501 (c) (3) non-profit organization and a Federally Qualified Community Health Center (FQHC) that provides comprehensive, integrated, healthcare and social services. For 43 years, KPHC embraced its commitment to improve the quality of life for many new Americans, low-income, underserved, uninsured and homeless populations (KPHC, 2016). In 1975, KPHC opened its doors in response to community concerns regarding the health and social needs of low-income Native Hawaiians and a growing Asian and Pacific Island immigrant population who faced obstacles accessing healthcare due to language, cultural, and cost barriers in the U.S. (KPHC, 2016). Diabetes, hypertension, kidney disease, obesity, hepatitis, asthma, tuberculosis, oral health, and behavioral health illnesses have been and continues to be major health care needs of this population (KPHC, 2015). KPHC's patients share common challenges that contribute to health issues such as poverty, illiteracy, language and cultural isolation, and a healthcare delivery system that is difficult to navigate (KPHC, 2016).

Problem-focused Triggers

KPHC currently has a no-show protocol that was implemented in January 2011 that includes rescheduling, double-booking, documenting "no-show" in the electronic health system, and mailing a letter for patients who no-show to their appointments (Table 1).

Table 1

Kalihi-Pālama Health Center No-Show Process

1. The Medical Assistant and/or assigned staff manage the provider’s schedule at all times.
2. All patients who did not show up for their appointments shall be marked “no-show” by the medical assistant and/or assigned staff by the end of the work day
3. The staff assigned to a specific provider shall call the patient on the same day and follow the protocol below:

Appointment Type	Action
Established patient regular follow-up with no complications	Reschedule on the next available established patient slot
New patient/physical exam (PE)/well-child check(WCC)/annual exam	Reschedule on the next available new patient/PE/WCC/annual exam slot
Sick visit	Consult with your provider before rescheduling
New OB/OB Follow-up/Post-partum Follow-up	Consult with the women’s health provider before re-scheduling
Patient with chronic conditions & multiple comorbidities	Consult with your provider or nurse care coordinator before rescheduling
ER/hospital follow-up	Reschedule on the next available opening. Consult with your provider as necessary

4. A brief summary of the call shall be documented on the “phone notes” section on EMR with a heading reschedule if they were able to contact and “reschedule” appointment and “no-show” if they were not able to contact the patient
5. A letter encouraging the patient to re-schedule missed appointments and educating them on the importance of follow and keeping appointment shall be sent to those who for any reason were not able to contact via telephone.

6. Patient who chronically no-shows after 3rd offense without sensible reason shall have a “chronic no-show” alert placed on their file to allow staff to double book as necessary.
7. KPHC’s overall no-shows as well as individual provider’s no-show rate shall be tracked and evaluated on a monthly basis.
8. All reports shall be reviewed and presented to the NCQA-PCMH Committee and Quality Improvement committee for quality improvement.

Despite the implementation of this protocol, the no-show rate continues to rise annually. From 2015-2016, the average no-show rate increased from 12% to 14%. In March 2015, a small sample study was conducted at the main clinic to assess the reasons for no-shows by directly calling no-show patients (n=105) by phone. The majority of no-shows were unable to be reached after multiple attempts primarily due to no answer (41%) and phone disconnection (27%). However, the patients that were reached had a work schedule conflict (18%), were unable to come with no reason (9%), or had been hospitalized (5%).

In August 2016, a monthly report of no-show patients using i2i tracks was generated for adults (n=157) including ages 18+ years, gender, ethnicity, health insurance coverage and provider at the Main Clinic. The report revealed that the no-show patients were between the ages 26-44 years, female, Pacific Islander, with Medicaid-Quest health insurance (Appendix A).

Conceptual Framework

The Stetler Model of Research Utilization to Facilitate Evidence-Based Practice provides a specific algorithm with a series of critical thinking and decision-making steps, designed to facilitate safe and effective use of evidence for practice change (Stetler, 2001) and is the conceptual framework that will guide this EB practice quality improvement project. This model incorporates evidence, current practice, applicability, collaboration, and

feasibility that is most appropriate to the organization (Schaffer, Sandau, & Diedrick, 2012).

The Stetler Model consist of five phases: 1) preparation, 2) validation, 3) comparative evaluation/decision making, 4) translation/application, and 5) evaluation (Stetler, 2001).

Literature Review & Synthesis

An electronic database search was conducted using PubMed, CINAHL, and Google Scholar. Search terms included “no show patients”, “missed appointments”, “appointment and schedules”, “ambulatory care”, “primary health care”, “community health centers”, “office visits”, and “patient compliance” using Boolean operators. Inclusion criteria was filtered to adults 18+ years and English language. Exclusion criteria included infant, child adolescents and hospital institutions. A total of 110 articles were obtained and 18 pertinent articles were critiqued and synthesized. The publication dates were between 1998 to 2016.

Mosby’s Quality of Evidence and Titler’s Research Quality and Outcome Tool for systematic reviews were used to appraise and grade the level of evidence. The eighteen synthesized articles were ranked using Mosby’s Research Critique Tool and can be viewed in Table 2. Two articles were systematic reviews, four randomized control trials, two quasi-experimental designs, three cohort and longitudinal studies, six descriptive studies, and one review of the literature. For retrospective cohort studies, samples were extracted from electronic health records and analyzed, while other studies used patient samples to participate in their studies. The sample sizes ranged from 55 to 2.14 million.

Table 2

Mosby's Level of Evidence and Synthesized Articles

Level of Evidence	Description	No-show Articles
I	Systematic Review or Meta-analysis of all relevant RCTs	2
II	Experimental design/Randomized Control Trials	4
III	Quasi-experimental design	2
IV	Case-controlled, cohort studies, longitudinal studies	3
V	Correlation studies	0
VI	Descriptive including surveys, cross sectional design, developmental design and qualitative studies	6
VII	Authority opinion or expert committee reports	0
Other	Performance improvement, review of literature	1

The articles included mainly studies within the United States and two international studies from the United Kingdom and Geneva. The studies were conducted within Kaiser Permanente clinics, large university medical groups, Veterans Affairs Healthcare Network Clinics, multi-specialty medical groups, general practice clinics, and small urban primary care clinics. The demographics of the populations studied primarily lower socioeconomic, lower education, White, Hispanic and African-American adults aged 17-65 years, uninsured or enrolled in Medicaid. The study participants resided in lower-income areas.

Common reasons for patient no-shows discussed in literature were forgetfulness (Kapan-Lewis & Percac-Lima, 2013); barriers to access such as affordability, availability, physical accessibility, transportation and accommodation (George & Rubin, 2003); clinic proximity (Reid et al., 2015); lead time (Norris et al., 2012; Reid et al., 2015); health status such as psychological problems and feeling better (Cashman et al., 2004; Maxwell et al., 2001); patient health beliefs such as not feeling the need to come, feeling the visit will not help, not understanding the reason for visit, and lack of understanding the healthcare system (Maxwell et al., 2001; Pieper & DiNardo, 1998); miscommunication and poor staff and provider relationship (Kapan-Lewis & Percac-Lima, 2013), and clinic specific problems such

as unable to call the office, long wait times, clinic hours, and parking difficulties (Maxwell et al., 2001). Appendix A list the interventions discussed in studies.

Interventions included a predictive no-show model (Daggy et al., 2010; Reid et al., 2015), phone call reminders (George & Rubin, 2003; Guse et al., 2003), letter reminders (Maxwell et al., 2001), overbooking (Daggy et al., 2010; DuMontier et al., 2013), advanced (open) access scheduling (Daggy et al., 2010; DuMontier et al., 2013), patient education (Daggy et al., 2010; DuMontier et al., 2013; George & Rubin, 2003; Guse et al., 2003; Maxwell et al., 2001; Zeber, Pearson, & Smith, 2009), and patient navigators (Kelly et al., 2015). Most studies concluded that a combination of interventions was overall most effective if the intervention was targeted to a specific group of higher risk patients for no-shows. There were limited studies that described the success of a single intervention. Only telephone reminders and predictive model were studied as a single intervention.

Phone Call Reminders. Consistent, strong evidence from systematic reviews (SR) and randomized control trials (RCT) confirmed that phone call reminders could significantly reduce no-show rates. A RCT conducted by Hashim et al. (2001) found a total no-show reduction of 6.9% and that the net revenue generated by the number of patients seen offset the cost of telephoning patients. The literature discussed the use of both automated and manual telephone reminders. Telephone reminders were generally conducted one to seven days before a scheduled appointment (Hashim et al., 2015; Percac-Lima et al., 2015; Perron et al., 2010). A total of eleven articles reported that telephone reminders reduced no-show rates. Five articles studied telephone reminders as a single intervention (Level I, 3- Level II, Level III), while eight articles performed studies of telephone reminders in combination to other interventions such as letter reminders, predictive models, overbooking, patient education, and patient navigators (Level I, 3-Level II, 2-Level IV, 1-Level VI, 1-Other). One

qualitative study revealed that reminders made patients feel important and motivated to attend appointments (Pieper et al., 1998).

Predictive Model. Two studies have demonstrated that a logistic predictive model can predict the probabilities of whether patients will no-show in their next scheduled appointment. This method can be used to overbook appointments; thereby, maximizing service utilization and optimizing the number of patient served. A qualitative study found that the most successful predictors were behavior measures of no-show such as a history of cancellation and frequent no-show (Reid et al., 2015, Level VI). Although effective, a cohort study noted that predictive models require additional costs for software development, customization, and staff training (Daggy et al., 2010, Level IV).

Letter Reminders. No literature articles studied letter reminders as a single intervention. Therefore, there is no evidence that letter reminders alone are effective. Three articles (Level II, VI, Other) studied a combination with telephone reminders. One study (Level II) included letter reminders, telephone reminders, and patient education in their intervention and concluded that all three interventions must be conducted together to reduce the overall no-show rate.

Overbooking. Rai et al. (2015) reported that overbooking could overburden staff, increase patient wait times, lower patient satisfaction, and potentially increase no-show rates. There were no articles that studied overbooking as a single intervention.

Advanced “Open” Access Scheduling. This intervention was conducted in combination with overbooking and patient education in one study (Level III). It cannot be conclusive that advanced access scheduling is effective alone.

Education. Patient education was widely discussed in literature as an effective method in reducing no-shows. However, all studies were conducted in combination with

telephone reminders, letter reminders, overbooking, advanced access scheduling, and predictive model (Level I, Level II, Level III, Level IV).

Patient Navigators. Patient navigators was well supported in literature to increase patient engagement, removing barriers to accessing care, and enhancing chronic disease care (Kelly et al., 2015). Similar to other interventions, three articles studied patient navigators in combination with telephone reminders and patient education (Level I, Level II, Level IV).

Weaknesses, Gaps, Limitations

The strengths, quality, quantity, and consistency of the literature were strong. The literature was consistent in presenting common themes of reasons for no-shows, its impact on the delivery of patient care and in the health care system as well as interventions used to reduce no-show rates. A total of six articles were systematic reviews of RCTs (Level I) and single RCTs (Level II). The systematic reviews comprised of multiples studies with large samples. The articles that were lower level of evidence provided qualitative support and background knowledge. However, there were gaps, weakness, and limitations in the literature that must be considered. Most RCTs, quasi-experimental, and cohort studies were conducted within 6 months to 2 years. The sustainability of the interventions in the long-term may pose limitations. There were limited to no studies on Asian and Pacific Islander populations

Innovation and Objectives

Consistent, strong evidence from SRs and RCTs confirm that reminders were more effective to increase attendance at appointments compared to no reminders (McLean et al., 2016). However, most studies in the literature review concluded that a combination of interventions was overall most effective if the interventions were targeted to a specific group of higher risk patients for no-shows. This higher risk patient population was found to have a greater impact on the overall no-show rate. A small sample study conducted by calling no-

show patients at the main clinic showed that this high-risk population were predominantly women, middle-aged, Pacific Islander, and Medicaid insured. Interviews with supportive staff and health care providers also confirmed these preliminary findings. To reduce the overall no-show rate requires a strategic plan that integrates EB practice, interdisciplinary team collaboration, and applicability to the population.

Rai et al. (2010) recommended a sequence of interventions that included first an automated or direct telephone reminder, followed by an automated letter to patients who frequently missed their appointments. In the past six years, KPHC has already implemented telephone reminders, automated letters, and double booking in their no-show protocol; however, the no-show rates continued to rise yearly. After collaboration with KPHC's administration and interdisciplinary team, it was decided to aim the focus on motivating frontline staff (i.e., medical assistants and community health workers) through motivational interviewing training to strengthen the existing no-show protocol and improve patient engagement to reduce no show rates. The top ten reasons for no-shows and solutions were discussed among the staff (Table 3). The majority of the staff stated that tracking patients/reschedule appointments/reminder calls/expanding appointment options (40.6%) and patient education (28.1%) would help reduce no-shows (Appendix B). Evidence-based behavior engagement strategies such as motivational interviewing were shown to help patients want to attend their appointments (Molfenter, 2013).

Table 3

Top ten reasons for no-shows based on staff feedback

- 1 Cannot call office to cancel appointment
 - 2 Forgot
 - 3 No insurance
 - 4 No transportation
 - 5 Medical last priority
 - 6 Appointment booked too far out
 - 7 Patient cell phones cut off
 - 8 Schedule conflict/patient busy
 - 9 No money to pay (transportation or medical bills)
 - 10 Language barriers
 - 11 No reminder call or late call from staff
-

KPHC staff all agreed that establishing good relationships with patients was key to ensuring trust and attendance to scheduled appointments. Considering these interventions was seen to be more practical, sustainable, and feasible for this challenging population.

Summary

Using a combination of interventions like telephone reminders, letter reminders, advanced access scheduling, patient education, and patient navigators have been well supported in literature to reduce no-show rates at KPHC main clinic. However, collaboration with KPHC administration and interdisciplinary team was essential to ensure feasibility and sustainability at KPHC. Motivational interviewing was an additional key element in increasing staff-patient engagement. This will ultimately help improve continuity of patient

care and health outcomes. The next chapter will discuss the methods and the implementation and evaluation plans.

CHATER 3. METHODS

Patient no-shows remain a constant challenge for KPHC to reduce despite the implementation of a no-show process that was effective since March 2011. An EB practice approach was initiated to re-evaluate current practices and effectively reduce the no-show rate by utilizing interventions supported by literature findings. As stated in Chapter 2, the Stetler Model of Research Utilization to Facilitate Evidence-based Practice was used as a framework for this EB practice quality improvement project. This chapter focuses on the methods, including the implementation and evaluation plan, resources, dissemination plan and limitations.

Objectives

Based on extensive literature searches and review, the following PICO statement was developed to form the clinical question and purpose for this DNP project. Adult “no-show” patients at KPHC main clinic (P) were followed-up by phone using a combination of motivational interviewing, open access scheduling and patient education (I) as compared to current practice (C) to reduce the no-show rate (O). The clinical question was: Will the implementation of a combination of interventions reduce the no-show rate among the Adult Medicine Department at KPHC main clinic? The purpose of this DNP (quality improvement) project was to implement EB practice interventions to reduce the no-show rate at KPHC main clinic.

Design (QI/EBP)

Due to the ever-changing nature and advances in science, health care, and technology, the implementation of Roger’s Diffusion of Innovation Theory was most fitting to guide this DNP project. The no-show rate at KPHC main clinic continues to increase yearly even after the implementation of the no-show process consisting of telephone reminders, letters, and

overbooking. Patients, staff, and providers were constantly frustrated by the outcomes of no-shows. Studies reveal that no-shows reduce continuity and quality of care, cause underutilization of equipment and personnel, reduce patient/staff satisfaction as well as reduce available appointment times for other patients in greater need of health care (McLean et al., 2016).

QI/EBP Approach and Definition

The five phases of the Stetler Model were used as a conceptual framework to design the practice change. EBP integrates the best available research evidence, knowledge and clinical expertise and patient preferences and values (Polit & Beck , 2012). Interventions used to assist a patient in considering all available options, prove helpful so the patient can make informed decisions (Hall & Roussel, 2017). This model incorporates evidence, current practice, applicability, collaboration, and feasibility that are most appropriate to the organization's mission and vision (Schaffer, Sandau, & Diedrick, 2012). The expected outcome was to reduce the no-show rate in order increase access to care, reduce ER/hospital admissions, and improve continuity of care and patient health outcomes.

Practice Change Description

Who, What, When, Where, How

Based on preliminary KPHC baseline data, the highest risk population was identified to be among the adult population at the main clinic. A five-month pilot study was conducted between July-November 2017 and a combination of interventions of motivational interviewing, open access scheduling and patient education to patients in the Adult Medicine Department was implemented to reduce the no-show rate.

Attributes of Innovations and their Rate of Adoption

The attributes of innovations determine the rate of adoption among users and impact those affected by the change in the social system (Rogers, 2003). Innovativeness is defined as

the “degree to which an individual is relatively earlier in adopting new ideas than other members of a system, than about any other concept in diffusion research” (Rogers, 2003, p. 267). Innovations that are perceived as having greater relative advantage, compatibility, trialability, observability, and less complexity have been shown to be adopted more rapidly than other innovations (Rogers, 2003). On the other hand, innovations that require the development of new skills and understandings will be adopted more slowly than those that do not hold this requirement. This DNP project integrated the expertise of MAs and CHWs who are skilled, trained, and knowledgeable of their patient population to implement the EBP interventions. To strengthen the organization’s support and streamline this DNP project, Rogers’ (2003) five characteristics of innovation: (1) relative advantage, (2) compatibility, (3) complexity, (4) trialability, and (5) observability are defined and discussed below.

Relative advantage. Rogers (2003) defines relative advantage as the “degree to which an innovation is perceived being better than it supersedes” (p. 229). The relative advantage of this evidence-based (EB) practice quality improvement project improved health care access and continuity of care, helped reduce patient perceived barriers to appropriate/timely health care services, and improved patient health outcomes. The clinic also had more efficient clinic workflow and motivational interviewing improved patient-staff engagement.

Compatibility. Compatibility is defined as the “degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters” (Rogers, 2003, p. 240). The utilization of motivational interviewing, open access scheduling, and patient education are compatible to KPHC’s mission and values of patient-centered care. KPHC’s mission and values focus on providing quality integrated healthcare to all others in need of healthcare with a focus on preventative health care provided in a respectful, caring, and culturally appropriate manner (KPHC, 2016). Patients who missed

their scheduled appointments lose the opportunity to receive the most appropriate health care services. MAs and CHWs understand the struggles and potential barriers that prevent patients from attending their scheduled appointments and; thus, are frontline key players in this project.

Complexity. Complexity is defined as the “degree to which an innovation is perceived as relatively difficult to understand and use” (Rogers, 2003, p. 257). This allows the entire health care team (i.e., CHWs, RN care coordinators, MAs, receptionists, providers and supportive staff) to clearly understand and follow the process easier. Multiple barriers and confounding variables from the environment (e.g., no transportation, travel distance, traffic, weather), patient (e.g., language, financial, schedule conflict, forgetfulness), staff, health care provider, and clinic related factors (e.g., cannot reach telephone line, long wait time, no reminder calls) could contribute to appointment no-shows.

Trialability. Trialability is defined as the “degree to which an innovation may be experimented with on a limited basis” (Rogers, 2003, p. 258). A short five-month pilot study was conducted in KPHC main clinic Adult Medicine Department. There were resources (e.g. meeting room, supplies, computers, phones), target patient population, and staff and administration that supported this pilot study.

Observability. Observability is defined as the “degree to which the results of an innovation are visible to others” (Rogers, 2003, p. 258). The implementation process and outcomes of the DNP project was transparent based on the increased amounts of patient appointment rescheduling/cancelling, more available appointment slots, increased patient satisfaction, and improved clinic workflow. The stakeholder team evaluated the pre/post-implementation staff surveys and the no-show rate.

Definitions

Outcome

The conceptual definition of the outcome is to reduce the no-show rate. The baseline “no show rate” was defined using a pre-implementation no-show report that will be generated six months prior to implementation. Patients who missed at least one scheduled appointment between July to November 2017 were included in the data collection. The outcome was measured by the post-implementation no-show rate.

Intervention. A combination of interventions was found in EBP literature to be most effective (DuMontier, Rindfleisch, Pruszynski, & Frey, 2013; Guse, Richardson, Carle, & Schmidt, 2003). Operationally, five MAs and seven CHWs used a combination of three interventions including motivational interviewing, open access scheduling, and patient education to follow-up with no-show patients by phone.

Motivational interviewing. As mentioned earlier, MAs and CHWs received two one-hour motivational training sessions in July of 2017. The motivational interviewing training sessions, facilitated by this DNP student and Director of Clinic Operations, presented key concepts and role-playing to enhance skill and motivation. Round-table discussions as well as guest speakers (e.g., a provider, RN care coordinator, Director of Clinic Operations) were also incorporated into bi-monthly team meetings to integrate motivational interviewing into a no-show phone follow-up checklist consisting of eleven requirements that must be addressed and documented during the phone call (Appendix E). The follow-up call consisted of identifying and addressing patient perceived barriers, allowing patients to schedule appointments through open access scheduling, and educating patients how to utilize health care services appropriately.

Open access scheduling. Through a patient-centered approach, open access scheduling allowed patients “to seek and receive care from the provider of choice at the time

the patient chooses” (Rose, Ross, & Horwitz, 2011). KPHC accepts walk-ins and same-day appointments. Patients can also be double-booked at 8am or 1pm to accommodate patients’ preferences and after consultation with their PCP. For double-booked patients, it was required of staff to disclose to patients the possibility of a long wait but; however, patients will be ensured to see their PCP that day.

Patient education. MAs and/or CHWs called no-show patients on the same day based on the current KPHC no-show protocol (Table 1) and further educated patients about health care services offered at KPHC as well as utilizing health care services appropriately (e.g., calling the clinic to cancel and reschedule appointments, calling nurse advice for prescription refills , after-hours phone number).

Sampling Plan

Setting

Social. KPHC provides comprehensive health care (i.e., medical, dental, optometry, and pharmacy) and social services (i.e., behavioral health and educational/outreach programs) in 17 languages at 10 locations on the island of O’ahu (KPHC, 2016). The KPHC main clinic located on 915 North King Street is in the heart of Kalihi-Pālama, an urban inner-city in the County of Honolulu, Hawai`i serving predominantly Asian (45%), Pacific Islanders (29%), Native Hawaiian (4%), and other races (22%) (KPHC, 2016). The majority of the patients are recent U.S. immigrants and Compact of Free Association (COFA) migrants. Most of the patients live in the Kalihi and Chinatown district with the highest concentration of public housing and tax-subsidized low-income rental units in Hawai`i. The main clinic has medical health care providers (physicians and nurse practitioners), a triage nurse, MAs, registered nurse (RN) care coordinators, behavioral health therapists and supportive staff (i.e., receptionists, CHWs, and eligibility/health insurance workers).

Sample

Sample Size. From July to November 2017, 2,970 patients were seen by five health care providers in the Adult Medicine Department and 506 (17%) patients no-showed to their appointments. The conceptual definition of no-show patients was defined in literature as patients who did not attend or failed to cancel the scheduled appointment (Reid et al., 2015). The operational definition was determined by baseline preliminary data from a sample study conducted at KPHC.

Inclusion/Exclusion Criteria. New and established patients seen by the five health care providers from the Adult Medicine Department who missed a scheduled appointment between the time period from July to November 2017 were included in the intervention. MAs and CHWs identified these patients at the end of each working day. Patients from other departments (i.e., pediatrics, women's health, behavioral health, optometry and dental) and clinic locations were excluded.

Data Collection Procedures

Chronological Order of Data Collection Procedures

Aligning with the DNP project purpose and evaluation question, the focus group were the Adult Medicine MAs and CHWs. These frontline staff members directly interacted with patients on a daily-basis and completed a pre- and post-implementation survey to assess their knowledge and compliance to the existing no-show protocol. The MAs and CHWs then received training in motivational interviewing skills and collaborated to design a no-show follow-up checklist based on the no-show protocol. Bi-monthly meetings were then conducted for discussion and evaluation. A no-show report was also generated before and after the implementation period.

Required Resources

Minimal resources was required from the DNP student and the organization to complete the project. The following main resources of financial, human, time, and physical space was considered to ensure relative advantage, compatibility, complexity, trialability and observability (Rogers, 2003).

Financial. Budgeting requires an understanding of program components and the links between activities and intended outcomes (CDC, 2011). The only financial resources involved was spent toward providing lunch and snacks for bi-monthly motivational interviewing training sessions and team meetings, which totaled \$300. No additional costs were required for existing and available resources such as computers, telephones, and conference room.

Human. Human power was crucially important to drive this project. The frontline staff members involved in implementing the practice change included MAs and CHWs. This DNP project required the collaboration of an interdisciplinary team and leadership. The Director of Clinic Operations, Clinic Operations Coordinator, and RN care coordinators, and health care providers played a pivotal role in facilitating the practice change processes and training frontline staff members.

Physical Space. The training sessions and meetings were conducted at one of KPHC's conference room and staff used available work stations in the clinic with an accessible computer to the electronic health record (EHR) system and telephone.

Measurements

KPHC uses Centricity, the main EHR system, in all their clinics to manage patient records. Centricity was designed to help enhance clinical productivity by tailoring to the unique workflow and preferences in the ambulatory practice (General Electronic Company, 2017). KPHC also uses another program called i2iTracks to generate reports. I2iTracks uses

rigorous risk stratification and analytics built specifically to evaluate and manage value-based performance (e.g., number of no-shows, demographics and diagnoses within a designated time period) (I2i Population Health, 2017). RN care coordinators frequently use i2i tracks to triage patients, conduct assessments, assign care plans and manage their list of the highest priority patients. The evaluator can choose the inclusion criteria (e.g., name, age, gender, provider, insurance, and time period). With this report, the evaluator can transfer the data to Excel for statistical analysis and calculate percentages, rates, tables, and figures. Both Centricity and i2iTracks are pre-validated by National Committee of Quality Assurance (NCQA) Patient Centered Medical Home (PCMH) to receive auto-credit toward NCQA's PCMH 2014 scoring (General Electronic Company, 2017; I2i Population Health, 2017).

Timeline

The DNP project proposal was defended in June 2017 and the EB practice change was implemented for five months between July-November 2017. Pre- and post-implementation no-show data were conducted to evaluate the impact of the practice change. The majority of time invested were during the pre-implementation planning stage, training MAs and CHWs in motivational interviewing, and collaborating with stakeholders to build a no-show follow-up checklist to improve the existing no-show protocol. Time was budgeted to complete each phase of the project. Table 4 displays monthly events for this DNP project.

Table 4

Timeline of Events for DNP Project

Timeline of Events	2017							2018				
	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Engaged Content Expert, Opinion Leaders												
Engaged Stakeholders (staff & providers)												
Successful Proposal Defense (Ch. 1-3)												
Organization Approval to Implement												
Brief Key Stakeholders												
Staff Training												
Generate Pre-implementation No-show Report from January – June 2017												
Distribute pre-implementation surveys to staff												
Implement Pilot Study												
Staff Bi-monthly meetings												
Collect Data												
Enter Data												
Generate no-show report post-implementation												
Distribute post-implementation surveys to staff												
Analyze/Interpret Data												
Written & Oral Defense												
Graduation												
Prepare & Submit Dissemination Products												

Note. Timeline of events show project development, implementation, evaluation, and dissemination.

Program Evaluation Plan

Data Analysis

Data analysis is the process of organizing and classifying the information collected, tabulating it, summarizing it, comparing the results with other appropriate information, and presenting the results in an easily understandable manner (CDC, 2005). RN care coordinators extracted data from the no-show report and entered the data into an Excel spreadsheet for statistical analysis. The no-show rate was calculated by dividing the number of no-show patients by the total number of patients scheduled at the Adult Medicine Department. A Pre-Post Test was used using T1 (1 month before implementation) and T2 (1 month after implementation). Since this EB practice change was a quality improvement project, subjects in the T1 and T2 sample were a 100% sample of clients who met the inclusion criteria during the designated time periods. There were no controls.

Human Subjects Consideration

The mission and values of KPHC are to provide quality, integrated healthcare to those in need, focused on preventative healthcare that is provided in a respectful, caring, and culturally appropriate manner (KPHC, 2016). All patients, staff and providers are treated equally in dignity, with a shared goal of providing the highest level of patient-centered care (M. Dela Cruz, personal communication, February 27, 2017).

This project was designed with the consideration to protect the rights of human subjects involved in the project. The ethical tenants was sustained. As a quality improvement initiative, there were no plans to randomize subjects in different treatments in accordance to non-maleficence. Therefore, no IRB approval was needed to implement this DNP project. Additionally, justice and fairness was reflected by implementing EB practice interventions among all subjects who met the inclusion criteria (i.e., new and established patients in the Adult Medicine Department).

Autonomy was established and approved by the organization to tailor this practice change. The confidentiality of participants (i.e., patients, staff, and providers) was protected, as no person-identifiable information was reported. Aligned with beneficence, the organization will use the results to enhance their continual commitment to provide patient-centered care and maintaining the highest level of recognition by NCQA. The DNP student completed the University of Hawai'i required Collaboration Institutional Training Initiative (CITI) course in Human Subjects Protection. This project was reviewed by a committee consisting of faculty and clinical experts to ensure there are adequate human subjects protection.

Limitations

Quality improvement projects are subject to have many limitations. This DNP EB practice project was implemented and evaluated for five months in a pragmatic environment under less than ideal conditions. The fluidity of the environment, such as the patient population, high staff turnover, and shifting priorities/demands in the organization, were expected to impact the variables, subjects and outcomes. Therefore, despite efforts to adjust for risk not all conditions could be controlled.

Convenience sampling, broad inclusion criteria, small sample size, and the distribution and representation of the sample during the months between July to November was considered. Several outcome measures relied on self-reports and surveys that have no established reliability and validity. In addition, the EB practice interventions have never been previously tested at this organization and patient population, which may limit the quality and interpretation of data findings.

Summary

The purpose of the DNP quality improvement project was to implement EB practice interventions to reduce the no-show rate among patients in the Adult Medicine Department at KPHC main clinic. This chapter presented the practice change objectives, and implementation and evaluation plan following Phase VI (translation/application of practice change) and Phase V (evaluation) of the Stetler Model. The EBP implementation plan included the practice change description, sampling plan, stakeholder engagement plan, and application of communication processes. The evaluation plan consisted of the integrity of design, program description, definitions, and data management plan. Lastly, the resources, dissemination plan, human subjects considerations and limitations were discussed. The next chapter will discuss the results and data analysis.

CHAPTER 4. RESULTS

Objectives

The objective was to reduce the patient no-show rate in the Adult Medicine Department at KPHC by implementing a combination of interventions that included motivational interviewing, open access scheduling and education. The overall goal was to increase patient-clinic engagement and reduce patient no-shows.

Description of Sample

All new and established patients (n=10,640) that had a scheduled appointment with a health care provider in the Adult Medicine Department during the five-month time period from July to November 2017 were included in the study sample. The no-show rate was calculated by dividing the number of no show appointments by the total number of patients scheduled in the Adult Medicine Department (Table 5).

Table 5

Adult Medicine Department No-show Rate from July to November 2017.

	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Total No. of No-Shows	103	123	127	67	98	91	94
Total Appointments Scheduled	520	711	645	513	572	529	560
Total No-show Rate	19.8%	17.3%	19.7%	13.1%	17.1%	17.2%	16.8%

Trend Analysis for Process & Outcome Variables

According to Figure 1, there was a reduction in the no show rate during the 5-month implementation period in the Adult Medicine Department. The no-show rate decreased from 19.8% in June down to 16.8% in December. In comparison of the no-show rates based on demographics, patient ages 18-25, Chuukese, and hypertension had the greatest reduction in no-show rates (Table 6). This may show an impact in the rate changes as more patients were attending their appointments or appropriately cancelling/rescheduling their appointments.

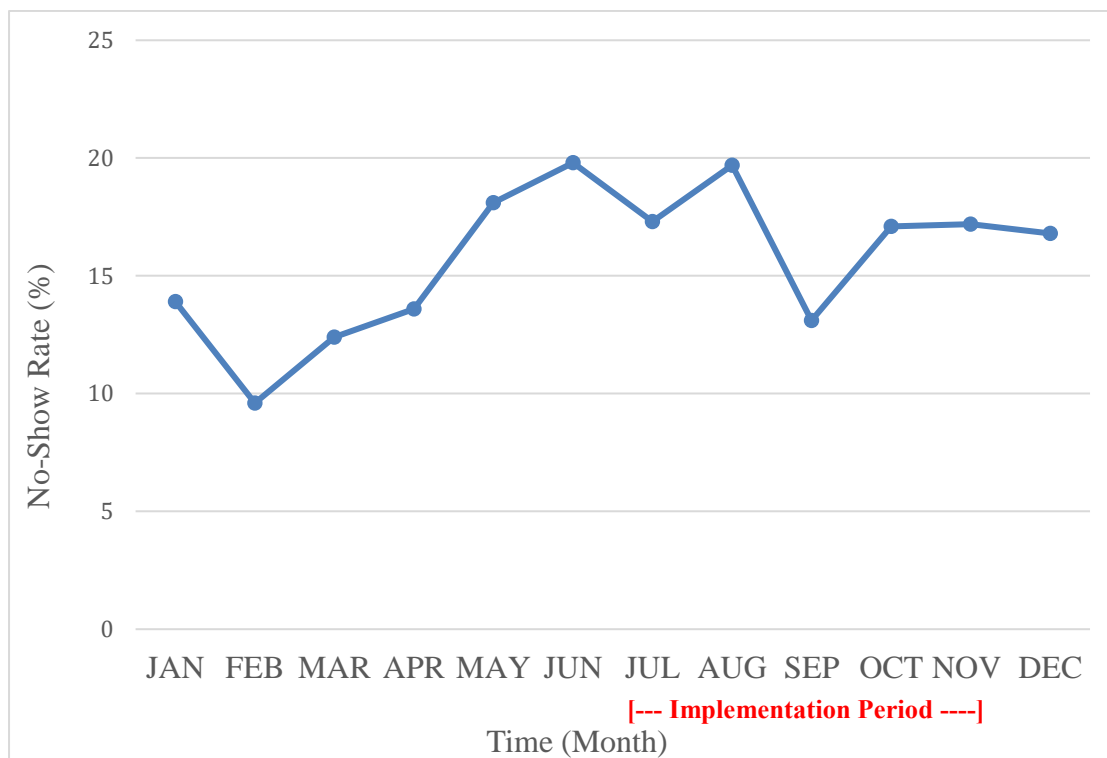


Figure 1. Adult Medicine Department No-show Rate Trend Analysis

Table 6

Adult Medicine Department No-show Rates Based on Demographics

Demographics	<u>January - June 2017</u>		<u>July - November 2017</u>		<u>% Change</u>
	Total No.	NS Rate	Total No.	NS Rate	
<u>Age</u>					
18-25	57	2.2	61	2.2	0
26-44	152	5.8	132	4.7	-1.1
45-64	198	7.5	209	7.5	0
Age 65+	76	2.9	80	2.9	0
<u>Ethnicity</u>					
Chuukese	845	32.2	154	5.5	-26.7
Marshallese	292	11.1	59	2.1	-9
Native Hawaiian	34	1.3	49	1.8	0.5
Samoan	28	1.1	21	0.8	-0.3
Tongan	9	0.3	7	0.3	0
Other Pacific Islander	300	11.4	299	10.7	-0.7
Chinese	1	0	0	0	0
Filipino	139	5.3	0	0	-5.3
Korean	8	0.3	4	0.1	-0.2
Laotian	3	0.1	0	0	-0.1
Vietnamese	14	0.5	19	0.7	0.2
Caucasian	22	0.8	22	0.8	0
Hispanic	73	2.8	73	2.6	-0.2
Black or African American	10	0.4	10	0.4	0
>1 Race	24	0.9	29	1	0.1
<u>Chronic Disease</u>					
Type 2 Diabetes	520	19.8	178	6.4	-13.4
Hypertension	592	22.6	239	8.6	-14
DM & HTN	271	10.3	128	4.6	-5.7
Total Appointments Scheduled					
	2625		2792		

In addition, this may also show that the staff engagement with patients improved through motivational interviewing. In the pre-implementation questionnaire, staff defined motivational interviewing as helping patients track and understand their health situation, accommodating patients, educating patients to have a good health, and encouraging patients about the importance of their importance. In the post-implementation questionnaire, staff redefined motivational interviewing as a counseling/educational approach; greeting, talking nicely, and adjusting to patients' resistance rather than opposing them directly; express and show empathy; motivation to make positive decisions and accomplish established goals; and clinical approach that helps patients with chronic illness and multiple health problems, making positive changes to better their health. The staff also rated their comfort level on a scale from beginner, novice, capable, confident, and expert in motivational interviewing. Nine out of the twelve who responded rated themselves either capable (44%) or confident (56%) on their comfort level using motivational interviewing. They listed suggestions for improvement such as calling patients a day before and day of appointment; keep calling patients, sending a letter and asking other who may know patient; educate patients about their appointments and if they cannot make it, to call the clinic to cancel appointments and reschedule; and reduce waiting time. On a day-to-day basis, the staff reported that they have noticed their engagement and follow-up with patients helped increased the chances of patients keeping their appointments. In turn, patients reported that they felt important and understood the importance of attending their appointments with their PCP.

Expected vs. Actual Outcomes

The no-show rate decreased as expected. The rate had a decreasing trend with a reduction by 3% and the greatest reduction among ages 18-25, Chuukese, and patients with hypertension. More patients attended their appointments and were appropriately cancelling/rescheduling appointments. This shows that the combination of interventions had

an impact on reducing the no-show rate. In addition, the staff responded with positive feedback and the effectiveness of motivational interviewing.

Facilitators

Through motivational interviewing training and bi-monthly meetings with invited guest speakers, the staff were engaged and saw the importance of no-shows and how that affects the patient and clinic. This project received much support from the Chief Executive Officer, Director of Clinical Operations, RN care coordinators, MAs, and CHWs.

Barriers

However, throughout the implementation period, there was a high staff turnover rate resulting in short-staff and new hires as well as competing priorities in the organization. In addition, there were unpredictable and uncontrollable factors that could not be addressed such as patients who were difficult to reach by phone and/or mail.

Summary

Overall, the combination of three interventions impacted patient-staff engagement and reduced the no-show rate by 3% in the five months of implementation. The patients who attended their PCP appointments had better established relationships with the clinic and improved health outcomes; thus, further reducing health complications and ER/hospital utilization rates.

CHAPTER 5. DISCUSSION

Interpretation of Findings

The results of this project demonstrated the impact of reminder calls, open access scheduling and education on reducing the no-show rate. Through a team-based collaboration, bi-monthly team meetings, and motivational interviewing training, the frontline supportive staff were better informed of reasons for patient no-shows and collaboratively developed strategies to reduce no-shows. The team meetings allowed staff to share their experiences and knowledge from a cultural perspective of their individual interventions that were successful as well share challenges from the patients they work with on a daily basis. In addition, the CHWs shared about their cultural differences and possible reasons why patients of certain ethnic backgrounds missed appointments. These valuable group discussions helped all staff (Nurses, MAs, CHWs) increase their awareness and understanding of the difficulties of mainly Asian and Pacific Islander patients who are not assimilated to the foreign American health system.

Motivational interviewing and a follow-up phone call helped identified and addressed potential patient perceived barriers such as no transportation, no health insurance or inability to reach the clinic's main telephone line. For the top ten no-show reasons, the team developed solutions and strategies to address them. The team meetings were successful in development and implementation, but; however, would require ongoing support, implementation and evaluation to sustain the positive impact on reducing no-show rates.

The majority of the responses received in the post-intervention questionnaire knew the no-show process and saw the importance of following up on patients who missed their appointment. They also mentioned that reminder calls, scheduling patients according to their preference, and education were pivotal to reducing no-shows. Motivational interviewing gave them the skills to improve their communication with patients as well as further understand

patient's reasons for missed appointments. In sum, they suggested strategies to reduce no shows by updating patients' phone numbers and address, scheduling appointment day/time best for them, reminder calls, encouraging them to come in, and educating patients about canceling appointments ahead of time. Moreover, they mentioned that patients who frequently no-show and failed to confirm their appointments in advance should be double-booked in the mornings at 8am or 1pm or walk-in to be assessed by a triage nurse and be seen by a provider for same-day appointment, if necessary.

According to staff's feedback, patients appreciated reminder calls and relieved to know that they can always call to the clinic to cancel/reschedule appointments. In addition, the reduction in the no-show rate may also indicate an increase in appointment cancellations and rescheduling; thus, opening more available appointment slots for patients to schedule sooner or to be seen on the same-day. Moreover, the patient access to health care increases, the clinic's productivity rates increases, ER/hospital utilization and readmission rates reduces, and; ultimately, patient health outcomes improved.

DNP Essentials

This DNP project met the recommendations outlined by The American Association of College of Nursing (AACN), which developed *The Essentials of Doctoral Education for Advanced Nursing Practice*. These essentials serve as a guideline of expected competencies for nurses.

Essential I: Scientific Underpinnings for Practice. This essential describes the improvement of health care delivery through a strong scientific background that integrates nursing science, values and practice. This DNP project utilized scientific principles, research-based knowledge, healthcare systems, healthcare delivery and evaluated new practice approaches to reduce no-show rates among vulnerable populations in need of

healthcare. A large proportion of patients who missed their appointments also had chronic diseases such as diabetes and hypertension that required care management and coordination.

Essential II: Organizational & Systems Leadership for QI & Economics.

Leadership in the organization and health care systems are crucial to delivering safe, efficient care delivery to both individuals and populations. By consulting with the health center's administration and facilitating bi-monthly team meetings with an interdisciplinary team of nurses, providers, information technology, and the Director of Clinic Operations, this EB quality improvement project helped improve the delivery of healthcare and cost reduction.

Essential III: Clinical Scholarship and Analytical Methods for EBP. Evidence-based practice involves translating evidence into clinical practice through clinical scholarship and analytical methodology with a focus on patient-centered care that is culturally appropriate. An extensive literature review and critique of the level of evidence was done following the Stetler Model to design, implement, and evaluate outcomes of practice, practice patterns, systems of care within a practice setting, health care organizations such as health insurances and the community.

Essential IV: Information System/Technology. Technology and informatics was essential to implement change in the delivery of healthcare management as well as collect data for analysis. The Information System Technology Department helped design and launch a "phone note template" for no-show follow-up call in the EMR for staff to document.

Essential V: Health Care Policy for Advocacy in Health Care. Health care policy highly influences the delivery of health care and impacts patients' ability to receive health care services. This DNP student and the team advocated for patients' rights and social justice by working closely with the KPHC's administration, eligibility workers and health insurance plans to assist for medical coverage and discounted health care services.

Essential VI: Interprofessional Collaboration. An interdisciplinary team of the organization's administration, health care professionals and supportive staff are essential to addressing the challenging problem of patient no-shows and improving health outcomes. This DNP student consulted with the KPHC's administration and led interdisciplinary team-based meetings to facilitate change.

Essential VII: Clinical Prevention and Population Health. Health promotion and population health was the ultimate goal of this project to encourage patients to attend their PCP appointment in order to receive the necessary health care services and screenings. By reducing the no-show rate, patients were able receive preventative and necessary health care services from their PCP. Studies have shown that patients who attend their PCP appointments regularly had better health outcomes.

Essential VIII: Advanced Nursing Practice. The role of an advanced nurse practitioner is ever-evolving with science and the health care system in addition to meeting the needs of community. Therefore, it is crucial that the nursing curriculum also advances to better prepare advance nurse practitioners. DNP prepared nurses are trained to utilize advanced clinical judgment, systems thinking, and accountability in designing, delivering, and evaluating evidence-based care to improve patient outcomes (AACN, 2006, p.17). This DNP student with a specialty in Family Nurse Practitioner used clinical judgment and evidence-based practice to strengthen the no-show process by integrating motivational interviewing, open access scheduling, and education to help reduce no show rates.

Plans for Dissemination

Results will be disseminated through oral presentations and written publications. At KPHC, anticipated plans are to utilize the best practices gathered from this EB quality improvement project and implement interventions to other departments and KPHC clinics. Motivational interviewing training will also be conducted for supportive staff and providers.

Since patient no-shows is a world-wide issue in many outpatient care settings, publication will help spread the knowledge both in primary care and various specialty clinics. The overall goal of this project is to help reduce patient no-shows and improve health care outcomes without exhausting the health care system and driving up healthcare costs. As seen in this project and through a collaborative effort, reducing no-show rates can be feasible and sustainable.

Summary

This chapter interpreted findings of the EB practice quality improvement project in reducing patient no shows. Additionally, *The Essentials of Doctoral Education for Advanced Nursing Practice* was discussed and its integration in this DNP project. In sum, the EB practice quality improvement project helped reduce the no-show rate at the Adult Medicine Department at KPHC main clinic, increased supportive staff engagement with patients through motivational interviewing as well as addressed patient-perceived barriers that cause them to no-show to their appointment. Plans for dissemination were discussed to share result findings to other outpatient clinics and alleviate the strain placed on the health care system.

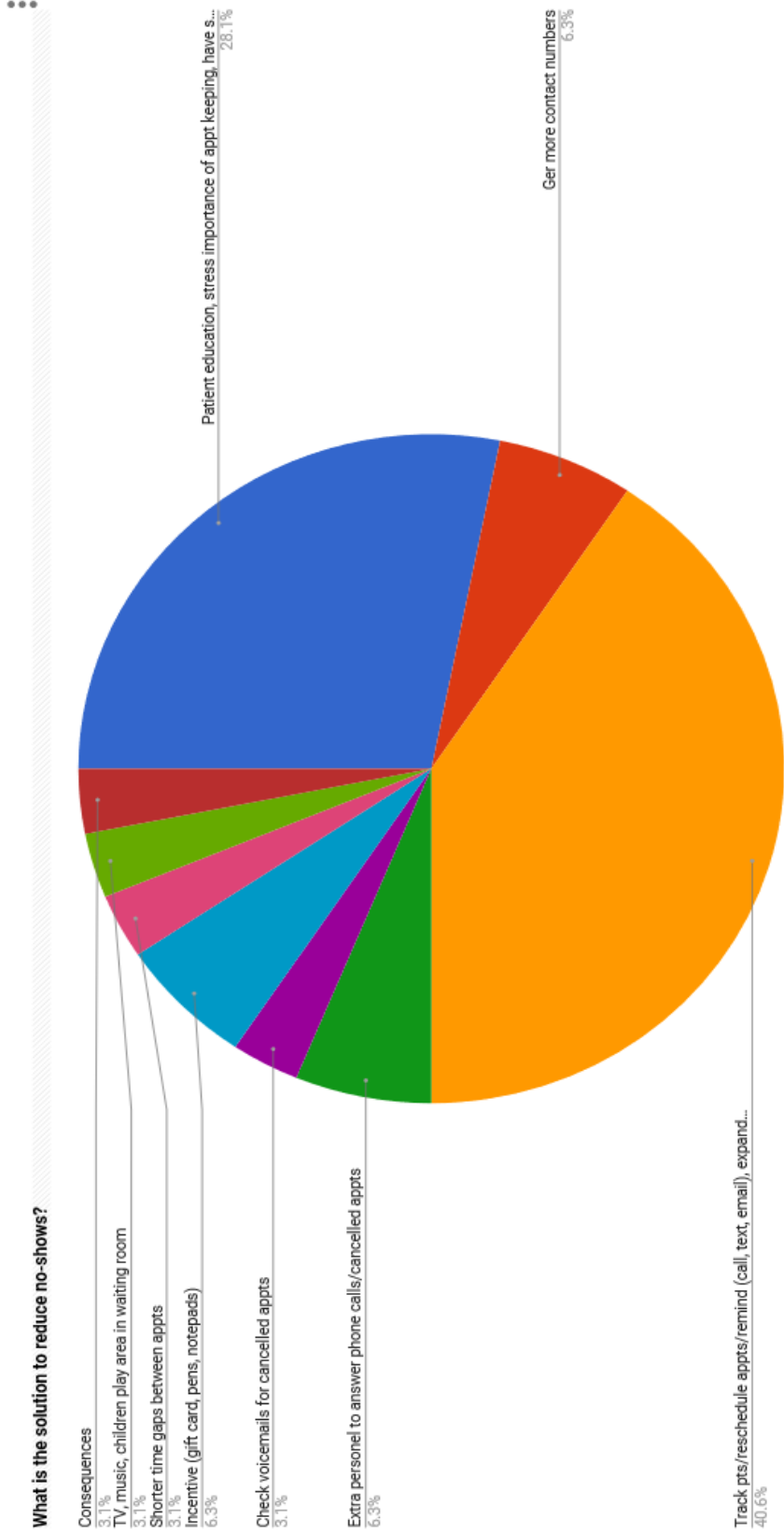
Appendix A

Kalihi-Pālama Health Center No-Show Report August 2016 at 915 Clinic

N=157	N =	%
Age		
18-25	15	9.6%
26-44	60	38.2%
45-64	48	30.6%
65+	34	21.7%
Gender		
Female	104	66.2%
Male	52	33.1%
Race		
Chuukese	36	22.9%
Marshallese	17	10.8%
Other Pacific Islander	16	10.2%
>1 Race	14	8.9%
Asian	14	8.9%
Filipino	13	8.3%
Native Hawaiian	11	7.0%
Samoan	8	5.1%
Caucasian	7	4.5%
Pohnpian	3	1.9%
Vietnamese	3	1.9%
Other	3	1.9%
Black or African American	2	1.3%
Chinese	2	1.3%
Laotian	2	1.3%
American Indian or Alaska Native	1	0.6%
Hispanic	1	0.6%
Korean	1	0.6%
Tongan	1	0.6%
Ukrainian	1	0.6%
Visayan	1	0.6%
Insurance		
United Healthcare Quest	32	20.4%
Self-Pay	25	15.9%
Ohana Medicaid	23	14.6%
AlohaCare Quest	21	13.4%
Medicare	19	12.1%
HMSA Quest	15	9.6%
Sliding Fee	13	8.3%
UHA	5	3.2%
MDX	2	1.3%
Humana	1	0.6%

Appendix B

Solutions to Reduce No-shows



Appendix C

Patient No-Show Interventions and Results

Level of Evidence	Predictive Model	Phone Call Reminders	Letter Reminders	Over-booking	Advanced Access Scheduling	Patient Education	Patient Navigator	No-Show Result
I		X						Reduced
I		X				X	X	Reduced
II		X	X			X		Reduced
II		X	X					Reduced
II		X						Reduced
II		X					X	Reduced
III				X	X	X		Reduced
III		X						Reduced
IV	X							Reduced
IV	X	X				X		Reduced
IV		X					X	Reduced
VI								No result
VI								No result
VI								No result
VI	X			X				Reduced
VI								No result
VI								Reduced for phone calls only.
VI								No change in letter reminders
VI		X	*					reminders
Other		X	X					Reduced

Appendix D

Stakeholder Roles and Interests

Stakeholders	Increasing credibility of the evaluation	Helping with the design of the evaluation plan	Implementing the evaluation's intervention	Advocate for changes to implement evaluation findings	Fund or authorize action to implement evaluation findings	What component of intervention/outcome matters most to them?
P Clinic Operations Coordinator <ul style="list-style-type: none"> • Program operations • Receive services • Users of Evaluation Findings 	X	X		X		<ul style="list-style-type: none"> - Improve clinic productivity and workflow - Reduce no-shows and increase access for patients in need of health care
P RN Care Coordinator (Project Leaders – Data management and collection, analysis)	X	X		X		<ul style="list-style-type: none"> - Improve clinic productivity and workflow - Reduce no-shows and increase access for patients in need of health care
R Medical Assistants	X		X	X		<ul style="list-style-type: none"> - Improve clinic productivity and workflow - Reduce no-shows and increase access for patients in need of health care - Reduce workload in educating patients of appointment scheduling policies and the importance of attending office visits
R Community Health Workers	X		X			<ul style="list-style-type: none"> - Improve clinic productivity and workflow - Reduce no-shows and increase access for patients in need of health care - Reduce workload in educating patients of appointment scheduling policies and the importance of attending office visits
R Family Medicine Providers	X	X				<ul style="list-style-type: none"> - Improve clinic productivity and workflow. - Reduce wasted idle time, see patients who need to be seen
U Director of Clinic Operations	X	X		X	X	<ul style="list-style-type: none"> - Reduce no-show rates and increase patient health care access according to the National Committee of Quality Assurance (NCQA) requirements for recognition - Ensure that KPHC policies and procedures are implemented and followed - Authorize the continuation and expansion of the program to other departments and KPHC clinics

Appendix E
No-Show Follow-up Call Checklist

No-show Phone Call Follow-up Check-list

- | | |
|---|--|
| <p>1. No-show reason</p> | <p><input type="radio"/> No Transportation</p> <p><input type="radio"/> No Insurance</p> <p><input type="radio"/> Forgot</p> <p><input type="radio"/> Schedule conflict/busy</p> <p><input type="radio"/> Cannot call office to r/s or cancel appointment</p> <p><input type="radio"/> Other: <input style="width: 150px;" type="text"/></p> |
| <p>2. No-show Appointment
Type of Visit</p> | <p><input type="radio"/> New Patient</p> <p><input type="radio"/> Physical Exam</p> <p><input type="radio"/> Sick Visit</p> <p><input type="radio"/> Other: <input style="width: 150px;" type="text"/></p> |
| <p>3. Appointment Reminder?
Did patient receive a reminder phone call and/or letter?</p> | <p><input type="radio"/> Yes... What language did the caller speak?</p> <p><input type="radio"/> No</p> |
| <p>4. Update Contact Information
Is patient's phone number and address correct on Centricity?</p> | <p><input type="radio"/> Yes</p> <p><input type="radio"/> No</p> |
| <p>5. Reschedule Appointment
What date/time does patient prefer?</p> | <p><input type="radio"/> Yes Appointment Scheduled: [Calendar]</p> |
| <p>6. Canceling Appointment
Does patient know how to call to reschedule or cancel appointment?
<i>**Give Patient your direct phone number to call, educate</i></p> | <p><input type="radio"/> Yes</p> <p><input type="radio"/> No... educate</p> |
| <p>7. Insurance</p> | <p><input type="radio"/> Yes</p> <p><input type="radio"/> No</p> |
| <p>8. Getting to appointment
How will you get to your next appointment?</p> | <p><input type="radio"/> Self/Family/Friend drive (car)</p> <p><input type="radio"/> Bus</p> <p><input type="radio"/> Handi-Van</p> <p><input type="radio"/> Walk</p> <p><input type="radio"/> Other: <input style="width: 150px;" type="text"/></p> |
| <p>9. Reminder preference</p> | <p><input type="radio"/> Phone call</p> <p><input type="radio"/> Letter</p> <p><input type="radio"/> Both Phone Call & Letter</p> |
| <p>10. KPHC Services
Is patient happy with KPHC staff and services?</p> | <p><input type="radio"/> Yes</p> <p><input type="radio"/> No</p> |
| <p>11. Language
What language did you and the patient communicate in?</p> | <p><input type="radio"/> English</p> <p><input type="radio"/> Chuukese</p> <p><input type="radio"/> Marshallese</p> <p><input type="radio"/> Chinese</p> <p><input type="radio"/> Vietnamese</p> <p><input type="radio"/> Korean</p> <p><input type="radio"/> Tagalog</p> <p><input type="radio"/> Ilocano</p> |

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