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Increasing Patient Satisfaction Survey Response Rate at an Ambulatory Surgery Center

Carlee Nicholson

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INCREASING PATIENT SATISFACTION SURVEY RESPONSE RATE AT AN
AMBULATORY SURGERY CENTER

by

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A Doctoral Project
Submitted to the Graduate School,
the College of Nursing and Health Professions
and the School of Leadership and Advanced Nursing Practice
at The University of Southern Mississippi
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Nursing Practice

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ABSTRACT

In an effort to increase distribution rate and response rate of the patient satisfaction survey at this ASC, adjustments were made to current processes. These interventions included accentuating the option of a paper or emailed survey, providing pre-operative and post-operative response prompts, as well as adding a cover letter to the existing survey. The purpose of these interventions was to ensure a 100% distribution rate of the survey as well as to increase the response rate by 20%.

Results were obtained by collecting forms to monitor distribution of the survey. The response rate was calculated by the number of responses received out of the number of patients served in that month. These results were compared to corresponding months of the previous year. After a two-month period of data collection, the interventions implemented in this project increased the distribution rate to 100% and increased the response rate by 14%. The increase in distribution rate and response rate was a favorable outcome as it relates to decreasing the chance of non-response bias and collecting a more valid sample of patient satisfaction surveys. Recommendations were made to continue to increase responses. An increased response rate was expected to provide more opportunities for quality improvement and provide a more accurate representation of the care received at this ASC to both the public and to CMS.

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DEDICATION

This doctoral project is dedicated to Hunter, Charlie, and Owen. Their constant support, understanding, and acceptance of many frozen pizzas made this project possible.

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LIST OF ABBREVIATIONS

<i>AACN</i>	American Association of Colleges of Nursing
<i>ASC</i>	Ambulatory Surgery Center
<i>CAHPS</i>	Consumer Assessment of Healthcare Providers and Services
<i>CMS</i>	Centers for Medicaid and Medicare Services
<i>DNP</i>	Doctor of Nursing Practice
<i>HCAHPS</i>	Hospital Consumer Assessment of Healthcare Providers and Services
<i>HOPD</i>	Hospital Outpatient Department
<i>OAS CAHPS</i>	Outpatient and Ambulatory Surgery Center Consumer Assessment of Healthcare Providers and Services
<i>PACU</i>	Post Anesthesia Care Unit

CHAPTER I - INTRODUCTION

Quality care has become synonymous with patient-centered care as healthcare has moved into a metric based, consumer-driven operating model. Influencing this change in part is the development of the Centers for Medicaid and Medicare Services (CMS) Quality Initiatives. These initiatives include measures that assess “healthcare processes, outcomes, patient perceptions, and organizational structure and/or systems” (Centers for Medicare and Medicaid Services [CMS], 2018a, p. 2). One of the measures included is the Consumer Assessment of Healthcare Providers and Systems (CAHPS) survey, which is a nationally standardized survey used to publicly report patient’s perception of care and determine reimbursement. The purpose of this survey is to allow for more transparency for consumers and competition for providers. The CAHPS surveys are extending from hospitals to outpatient care and are now becoming part of the quality measures in ambulatory surgery centers (ASCs). Currently, the reporting of this data from ambulatory surgery centers is voluntary through 2019 (Outpatient and Ambulatory Surgery CAHPS [OAS CAHPS], n.d. a). However, impending mandatory reporting reflects the pressure that outpatient and ambulatory surgery centers are experiencing. An ASC in central Mississippi is one facility bracing for the impact of publicly reporting patient satisfaction data. With a historic low response rate and concern of non-response bias, this below-average scoring ASC needs an increased response rate in order to gain an accurate depiction of patients’ perceptions of care in this facility.

Problem Statement

An ASC in central Mississippi maintains patient satisfaction scores below the national benchmark. As this information becomes available to the public through OAS

CAHPS, the results may not only reflect poorly on the quality of care of this facility but also may affect reimbursement status from CMS. This low score may not be an accurate depiction of the patient population of this ASC as response rates are low, posing risk for non-response bias. The low response rate could be contributed to an inconsistent offering of a paper or emailed survey preference, a lack of response reminders, and not providing a follow-up survey for failed responses.

Background

The OAS CAHPS survey a tool to measure the quality of hospital outpatient departments (HOPDs) and ASCs. This survey has a similar purpose to the previously instituted Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS), which measures patient experience and perception of quality care in hospitals (CMS, 2017). HCAHPS has been used since 2006 to compare hospitals by a national standard of patient experience (CMS, 2017). Following suit, HOPDs and ASCs are now required to submit data in order to compare performance and patient experience against other local facilities and on the national scale. The survey is intended to serve as a tool for comparing care of HOPDs and ASCs in order to provide consumers more choice in care and for promoting quality among these facilities. The survey measures patient experience of the center or department and of their provider following their surgery or procedure. Specifically, this survey measures patients' perceptions of communication, preparation for the procedure or surgery, as well as preparation for recovery.

OAS CAHPS data has been collected on a volunteer basis since 2016 (OAS CAHPS, n.d. a). Though proposed that this data be made publicly available in 2018 to determine 2020 CMS payment reimbursement, this decision has been delayed and the

2018 and 2019 data collection remains voluntary (CMS, 2018b). Nonetheless, HOPDs and ASCs are currently examining practices and survey scores to prepare for the impending policy shift.

Significance

The low response rate of OAS CAHPS surveys for this ASC in central Mississippi reveal a score consistently below the national benchmark. For 2017, the sample ASC received an overall score of 90.4 compared to the national average of 94.7 (Symphony Performance Health (SPH), 2018). In the category of patients' likeliness to recommend the facility, this ASC received a score of 83.6 compared to the national average of 91.3 (SPH, 2018). Scores are lowest in the areas of "staff asked about improvements", "wait time", and "delays were communicated" (SPH, 2018). In March 2018, this ASC received an overall score of 91.3 compared to the national average of 94.4, with the same lowest scoring categories (SPH, 2018).

Efforts had been instituted to improve communication about delays and wait times. However, without an improvement in responses, this ASC may not have been receiving an accurate depiction of patient experience with these issues. In addition, the public may not have been receiving an accurate depiction of this organization. With the impending mandated public reporting of data and affected reimbursement at risk, the most valid information being made available is crucial. Evaluating response rates is one critical aspect of evaluating health research and the validity of studies (Hardigan, Succar, & Fleisher, 2012).

Purpose Statement

The purpose of this project was to increase the response rate of a patient satisfaction survey at an ASC in central Mississippi by 20% in the second month when compared to the corresponding months in the previous year. By increasing the sample size, the intention was for the facility to gain a more accurate perception of patient care. The ultimate goal was to provide CMS with accurate data pertaining to the quality of care and resulting reimbursement.

PICOT Question

Based on the problem presented at this ASC and the subsequent literature review, a PICOT question was formed. Will accentuating preference between an ASC's paper or emailed patient satisfaction survey, along with providing a cover letter and prompting response post-operatively increase the response rate when compared to existing procedures? The interventions associated with this project aim to answer this question.

Theoretical Framework

Avedis Donabedian's structure-process-outcome approach model is used in this project. This model is a framework developed to evaluate the quality of care through assessing structure, process, and outcome (Zaccagnini & White, 2017b). As a quality improvement strategy, this project began with a careful assessment of the current processes and practices of the organization in order to improve upon them. Donabedian prioritized examination of the organizational structure when assessing outcomes (1980). The organizational structure of this facility is very much a top-down approach. In the past, this approach has not yielded satisfactory results in response rates to patient satisfaction surveys. Therefore, this project sought to involve stakeholders in the

implementation of its interventions. Outcomes were then evaluated from both an organizational standpoint and from the results of the interventions.

Doctor of Nursing Practice (DNP) Essentials

The American Association of Colleges of Nursing (AACN) identifies applying population health methods as an essential competency for the Doctor of Nursing Practice (DNP) in Essential VII: Clinical Prevention and Population Health for Improving the Nation's Health (AACN, 2006). This project exclusively looked at the population of an ASC in central Mississippi. The demographics in this population vary by age, sex, and ethnicity but all share the classification of outpatient surgical/procedural patients in Mississippi.

Also seen in this project is Essential IV: Information Systems/Technology and Patient Care Technology for the Improvement and Transformation of Healthcare. The use of web-based surveys at this facility is consistent with the widespread use of this technology across healthcare organizations. Web-based surveys offer several advantages to both those collecting the data and the respondent. They generally cost less, are quicker to disseminate and collect information, and they can widen the sample size (Hunter, 2012; Guo et al., 2016). This facility also uses a web-based analytics organization to collect and analyze the data so that is able to be readily viewed and assessed.

Additionally, Essential II: Organizational and Systems Leadership for Quality Improvement can be applied. Systems thinking involves looking at the larger system, understanding that all aspects of the organization contribute to the outcome of the whole (Zaccagnini & White, 2017a). This project examined how different departments work together to distribute the survey and promote the patient's response.

Needs Assessment

In 2017, this ASC served 8,979 individuals. Only 4,296 surveys were emailed out and an undetermined, yet reportedly small, amount of paper surveys were distributed (SPH, 2018). This finding means that about half of the patients that came through the facility did not receive a survey. The survey vendor used by the center reported 1,182 online responses and 79 mail responses, a total of 1,261 (SPH, 2018). Although 1,261 individuals responded out of the around 4,296 distributed surveys, a 25% response rate, only 14% responded out of the total number of cases.

In March 2018, this ASC served 599 patients. The survey vendor emailed out 250 surveys, while the ASC distributed an undocumented amount of paper surveys (SPH, 2018). A total of 84 responses revealed a 31% response rate (SPH, 2018). However, only 14% of patients responded out of the total number of cases because of a less than half distribution rate. Each month yields a similar pattern of distribution and response rates. This analysis reveals two needs of this ASC: (1) an increased distribution rate and (2) an increased response rate.

Several factors correlated to the low distribution rate and its affected low response rate. One of these factors was the inconsistent offering of paper versus email option. Upon registration, the patient is verbally asked their preferred survey method. However, this question was sometimes neglected due to an inconsistency in staff as well as distractions and workload. If the question was asked and the patient preferred a paper survey, the survey was handed to the patient prior to surgery, which posed a risk of it being lost with the events of the day. If an email was mentioned as a preferred method,

the patient's email address was recorded, which could often be mistyped. Furthermore, the patient could decline the survey at this point.

The previous practice of this ASC was to physically deliver a paper survey at the registration desk or email the survey 3 days post-op. This responsibility of distributing the survey and collecting email addresses fell upon the receptionists at pre-operative registration. Additionally, no additional or follow-up prompts existed for patients to complete the survey.

Synthesis of Evidence

Search Strategies

CINAHL was searched for terms, “non-response bias” AND “survey,” which yielded 71 full-text, peer-reviewed results. CINAHL was also searched using the terms “response rates” AND “patient satisfaction”, which resulted in 136 full text, peer-reviewed, timely articles. Finally, a search in the databases of CINAHL, Medline, and Health Source for the terms “ambulatory surgery center” AND “survey” revealed 8 full-text, peer-reviewed articles. From these results, articles were selected based on pertinence to the issues of non-response bias, response rates, and patient satisfaction surveys.

Nonresponse Bias

“Non-response bias is the systematic and significant variation between responders and nonresponders” (Lewis, Hardy, & Smith, 2013, p. 331, 2013). Non-response bias occurs when the sample of responders fails to reflect the targeted population (Lewis et al., 2013). Two problems regarding validity occur when subjects do not participate in a particular study. The first problem occurs when there is a loss of statistical power due to a lower number of subjects in the sample. The second occurs when there is

nonrandomization from missing subjects through particular demographics, such as age or socioeconomic status (Spooner, 2003).

Tolonen, Aistrich, and Borodulin (2014) identify men, younger age groups, single individuals, and a lower socio-economic status as those more likely to be non-responders in a survey. Women have been found to have the highest rates of participation in surveys (Aerny-Perreten et al., 2016). When differences exist between non-responders and responders, the resulting bias can lead to misleading conclusions and even erroneous practice change (Guo et al., 2016). No documented difference is present in responders' and non-responders' demographics at the ASC in central Mississippi. However, non-response bias remains a concern and can even be assumed because of the low response rate.

Though not indicative of non-response bias, a lower response rate can contribute to the risk of an unrandomized sample and affect the validity of the study (Hardigan et al., 2009). A high response rate should be sought to gain an accurate representation of the survey sample (Lee et al., 2009). No consensus is established on what is considered an acceptable response rate (Lewis et al., 2013). However, a non-response rate of 20-40% is considered normal in epidemiological studies involving postal or face-to-face surveys (Martikainen, Laaksonen, Piha, & Lallukka, 2007). Additionally, most peer-reviewed sources, such as the Journal of the American Medical Association, require a response rate of 60% (Tyser et al., 2016). The ASC in this study falls short of these targets with only obtaining responses from 14% of the center's population. This result is consistent with current research that claims response rates have been declining in recent years (Hardigan et al., 2012; Tolonen et al., 2014; Tyser et al., 2016).

Tyser et al. (2016) suggests that patient satisfaction surveys are especially vulnerable to sampling error and non-response bias. Their study found that with a response rate of only 16.5% in a web-based patient satisfaction survey and with the associated characteristics of the responders, non-response bias was present (Tyser et al., 2016). Based on this study, the ASC in central Mississippi is likely to involve non-response bias in its patient satisfaction survey. This finding is concerning due to the high value placed on patient satisfaction surveys in measuring the quality of care in this healthcare facility. If patient satisfaction is going to be a determinant of quality and reimbursement, then surveys must be valid and reliable, the sample size must be large enough and nonresponse bias must be ruled out (Voutilainen, 2016). Therefore, the sample size should be increased through increasing response rate in order to provide a valid and reliable measure of quality in this ambulatory surgery center.

Paper Versus Web-based

Two options of survey delivery exist at this ASC: paper and web-based. Every patient is asked to provide an email address to receive a web-based survey. Patients who decline an emailed survey or have no email address, are offered a paper survey. At no point is the patient asked their preference of delivery method. The process also leaves opportunity for an inconsistent offering of the paper survey. The lack of providing for patient preference and the unawareness of the paper survey reveals to be contributing factors to the low response rate of this ASC's survey. Several studies suggest a lower response rate with web-based surveys when compared to paper surveys. (Guo et al., 2016; Hardigan et al., 2012; Yetter & Capaccioli, 2010). In a study by Guo et al. (2016), paper surveys yielded a higher response rate of 43.4% when compared to the online

survey response rate of 33.7%. Not only do paper surveys produce higher responses, but they have also proven to be the preferred method of delivery (Hardigan et al., 2012).

Many advantages are associated with a web-based survey, however. In her examination of the advantages and disadvantages of online versus paper surveys, Hunter (2012) found that online questionnaires may yield satisfactory response rates in a relatively short time frame if used strategically. Web-based surveys offer several advantages including being less expensive, more convenient, being faster in transmission and responses, and may offer an increased sample size (Guo et al., 2016; Hunter, 2012; Yetter & Capaccioli, 2010). Despite being advantageous for the facility in regard to convenience and cost efficiency, respondents may perceive having to take an extra step in completing an electronic survey. Having to obtain Internet access and log onto the email, can be an inconvenient factor when compared to paper-pencil surveys (Hardigan et al., 2012). In addition to inconvenience, using an online survey may exclude some groups of people. Generally, Internet users are younger, more educated, and of higher socioeconomic status (Yetter & Capaccioli, 2010). Using online surveys alone may present sample bias due to the exclusion of the computer illiterate or those that do not meet the above criteria (Hunter, 2012). Another issue to consider is the high rates of non-delivery associated with web-based surveys. Yetter and Capaccioli (2010) claim that non-delivery rates as high as 67% have been associated with web-based surveys.

Increasing Response Rate

Studies have shown that incentives, pre-notification of the survey and reminders are all successful in increasing response rates in face-to-face surveys (Tolonen et al., 2014). Higher response rates from mailed surveys were associated with repeated contact

with the subjects, shorter survey length, monetary incentive, personalized cover letters, the inclusion of return postage, and provision of a second questionnaire (Guo et al., 2016).

The use of incentives in mailed surveys has been recognized as a way to increase the response rate. However, a pre-paid incentive has been suggested to yield a higher response rate when compared to an incentive dependent on completion of the survey. Additionally, lottery incentives have been considered advantageous in securing responses (Guo et al. 2016). The survey analytics company used by the ASC in central Mississippi currently offers a monthly drawing for a gift card for those that participate in the survey. However, this incentive has not been shown to improve responses. Furthermore, no incentive is offered for those that complete a paper survey.

Personalizing survey delivery is also a way to gain responses, as it can affect an individual's decision to participate. Gaining responses can also be accomplished through the inclusion of a handwritten note, personalized cover letter or envelope, or providing a direct telephone number (Guo et al., 2016). Based on this recommendation, a personalized cover letter will be added to the survey at this ASC.

Finally, follow-up prompts have been proven to increase response rates. In a study conducted in Finland, researchers found a significant increase in response rate with the use of SMS reminders to participants (Tolonen et al., 2014). Aerny-Perretsen et al. (2015) also found that there was a rise in response rates after reminders, with an almost 75% increase from surveys delivered after three sets of reminders. Currently, no system is in place for prompting response from patients. The aforementioned evidence suggests that

by prompting a response from the patients three different times (pre-operatively, post-operatively, and via follow-up phone call) survey responses will increase.

Summary

As CAHPS moves into ASCs as a measure of the quality of care through patient experience, the validity of survey results is of utmost importance. Although not indicative of non-response bias, a low response rate may factor into the accuracy of data received from the recipient sample when compared to the surveyed population. Several methods have been suggested to increase survey responses, such as providing personalized cover letters, reminders, incentives, and a paper survey option. The goal of this project was to utilize these strategies to increase survey responses while ensuring more of this ASC's patient population is given the opportunity to participate. Methods will be outlined in the following chapter.

CHAPTER II - METHODS

Context

The setting for this project was an ambulatory surgery center in central Mississippi. This center has 5 operating rooms and averages approximately 600 patients a month. Specialties include ear, nose, throat, gynecology, ophthalmology, orthopedics, pain, and podiatry. This center serves pediatric and adult populations. Because every patient receives a patient satisfaction survey, the target population for this project was all patients at this ASC. For the pediatric population, parents or guardians receive the survey. Stakeholders in this project include the staff involved in its implementation, administration of the facility, and the patients at this ASC.

Interventions

Prior to project implementation, two cover letters were customized based on the OAS CAHPS template—one letter for paper surveys and one letter for emailed surveys. These letters were printed and supplied to the reception staff. A preference form was also created with checkboxes indicating preferred survey delivery method. These forms were printed and supplied to reception staff as well. Meetings were then held with personnel involved in the project. First, this author met with the receptionists and related office staff to discuss the background and purpose of the project. Their role in the project was discussed and adequate time was allowed for questions and comments. A second meeting with the same discussion points was then held with the Post Anesthesia Care Unit (PACU) nurses involved in the project's implementation.

The process began at the registration desk where the patient was offered a brief description of the survey and prompted to select their preferred delivery method using the

checkboxes provided on the preference form. If email was selected, the receptionist verified the email address and attached a cover letter for the emailed survey onto the patient's chart. If paper was selected, the patient was made aware that the survey would be attached to their discharge instructions and the paper survey and cover letter were attached to the patient's chart. The preference form was also attached to the patient's chart, which would be used as a means of verification for the PACU staff.

As the patient was prepared for discharge after their procedure and recovery, the nurse in the PACU noticed the patient's preferred delivery method. If paper was selected, then the nurse attached the paper survey to the patient's discharge instructions along with the cover letter. If email was selected, the nurse would only attach the cover letter for the emailed survey. Upon discussion of discharge instructions, the nurse informed the patient that the survey was either attached or would be emailed. The nurse then discussed the importance of the survey and of the patient's response. Finally, the PACU nurse would indicate on the preference form that the survey was delivered via a provided checkbox.

Post-operative day 1 or 3 (if the procedure was on a Friday), the patient received a follow-up phone call from a PACU nurse. The patient was prompted during the phone call to complete the survey and, if paper, to return it by mail. Any questions regarding the survey or return method were answered at this time. Additional reminders were placed around the facility in pre-op, PACU, and waiting areas that encouraged patient response to the survey.

Study of the Interventions

The impact of this intervention was assessed by gathering distribution and response data for two consecutive months. The data was assessed a second month to

accommodate for a learning curve in a new procedure for the staff and to gather a higher volume of data. First, the survey delivery preference forms attached to the patient's chart were gathered at the end of each day for each month. Because the PACU nurses verified delivery of the paper survey via a checkbox on the form, collecting the forms was a direct method to tally paper survey distribution. The survey vendor used by this ASC provided information on how many emailed surveys were delivered. Second, the number of responses was recorded via the survey vendor and reported to the ASC. This report was assessed at one month and two months to determine response rates. The data collected post-implementation was then compared with retrospective data collected from the corresponding months of the previous year via the survey vendor analysis reports. Changes in distribution rate and response rates were observed over the comparable time periods.

Measures

The purpose of this project was to increase the response rate of surveys from persons receiving services at this ASC. In order to increase the response rate, an additional goal was to ensure a greater sample of these patients received the survey. Therefore, measures chosen for this project were the survey distribution rate and response rate. The distribution rate is defined as the number of surveys delivered to patients out of the number of patients serviced by the ASC for a given time period. Prior to this intervention, there was no system in place to monitor the distribution of surveys. The survey vendor offered an emailed distribution rate based on the number of emails sent out. However, because paper surveys were handed out at the facility and no system was in place for documentation, the total distribution could not be accurately measured. For

the purpose of this project, the distribution rate was not a completely valid comparable measure. However, the distribution rate did serve as a quality improvement measure for future, more accurate calculations of response rates.

Because no process was in place to accurately calculate distribution prior to this procedure, the response rate could not be calculated from the number of surveys delivered. Another consideration to be made is that while this project allows for an accurate calculation of the distribution rate, a true response rate that calculates total responses from total surveys delivered in a given time period cannot be accurately calculated even after these interventions. The survey vendor publishes monthly reports to the facility. These reports document the number of emailed surveys sent out and the number of responses received during a given month. These responses are not necessarily from the surveys distributed during that month. The responses received during the reported month could have been from surveys distributed the month or even months prior to the reported month. In order to compare response rates from this intervention and the responses collected retrospectively, a modified response rate was used. The response rate for this project is defined as the number of responses received out of the number of patients in a given period of time.

To assess the completeness and accuracy of data, the preference form was gathered from each chart at the end of every day for a two-month period. This step was included to ensure every patient received a paper survey that indicated that preference. The email-readback step at the registration desk was formulated to ensure every patient that indicated an emailed survey, received a survey to the correct email address. The

survey vendor used by this facility gathered response data from the distributed surveys. Information was taken from this vendor's monthly reports.

Analysis

Quantitative methods were used to compare the number of responses received per number of patients at the facility at both a one-month and two-month period. These numbers were then compared to retrospective data from the previous year. A prior analysis of survey response data revealed a consistent estimated distribution and response rate for each month in the calendar year. Based on seasonal variations of patient volume at this facility, the changes in response rates were compared to the same months of the previous year to remain consistent.

Ethical Considerations

The ethical considerations of this project pertain mainly to the staff involved in its implementation. Both the receptionists and PACU nurses were asked to perform tasks for this project in addition to their typical responsibilities, which presented inconvenience in both learning a new process and the time taken to participate. At both the beginning and end of the project, staff was offered the opportunity to share feedback on how the process could operate more efficiently in regard to their involvement.

Another ethical issue to consider is the presence of patient information on the returned survey. These surveys were processed online and available to administration via an online application. In order to assess survey distribution and response data, this application with patient information was accessed. However, no individual data was obtained for the purpose of this project. All survey data collected in this project was deidentified.

Summary

The outcomes of this project were projected to be an accurate and increased distribution rate and an increased response rate of a patient satisfaction survey at a particular ASC. Achievement of these outcomes was dependent on the change in the process surrounding survey delivery methods and response reminders. Estimated distribution rates and response rates were measured before and after the project's implementation to assess the efficacy of the new process. The results will be discussed in the following chapter.

CHAPTER III - RESULTS

After two months of data collection, the response rates for February and March of 2019 were compared to the same months of 2018. The distribution rates were also observed for the same months. The post-intervention data reveals increases in both measures.

Table 1

Response and Distribution Rate Results in February 2018 and 2019

Year	Number of Patients	Estimated Distribution Rate*	Received Responses	Response Rate
2018	576	50%	93	16%
2019	451	100%	126	28%

Table 2

Response and Distribution Rate Results in March 2018 and 2019

Year	Number of Patients	Estimated Distribution Rate*	Received Responses	Response Rate
2018	599	43%	84	14%
2019	533	100%	144	27%

*Estimated distribution rate was calculated from the number of surveys emailed by the survey vendor plus the number of paper responses divided by the total number of patients for that month.

In the month of February 2018, this ASC served 576 patients. The survey vendor emailed out 289 surveys, while the ASC distributed an undocumented amount of paper surveys. Based on the 3 paper survey responses received, the estimated distribution rate was 50%. A total of 93 surveys responses were received which suggested a 31% response rate based on distribution. However, only about 16% of responses were received from the total patient population because of a 50% distribution rate. Therefore, a 16% response rate is documented for the purposes of this project.

In March 2018, this ASC served 599 patients. The survey vendor emailed out 250 surveys, while the ASC distributed an undocumented amount of paper surveys. A total of 84 responses revealed a 31% response rate. However, only 14% of patients responded out of the total number of patients for the month of March because of a less than half distribution rate.

For February 2019, this ASC served a total of 451 patients. All of these patients received a survey. The survey vendor received 126 responses for that month, which yields a 28% response rate. In the month of March 2019, this ASC served a total of 533 patients. All of these patients received a survey. The survey vendor received 144 responses, yielding a 27% response rate.

Summary

The analysis of the post-intervention data reveals a 14% increase in responses over the previous years. All patients received a survey through this intervention versus the estimated 43-50% in previous years. During the two months of data collection for this project, 35% of patients preferred a paper survey and 65% received an emailed survey.

CHAPTER IV – DISCUSSION

Overview

As this facility and other ASCs prepare for the upcoming CMS evaluation of the OAS CAHPS survey, a true reflection of patient satisfaction is crucial. In order to do provide the most accurate data, the removal of non-response bias through increasing survey response rate is a vital primary step. Therefore, the goal of this project was to achieve a 20% increase in responses over a two-month period to bring the facility closer to a 60% rate to eliminate non-response bias. The 14% increase fell short of this goal. However, the response rate will presumably continue to increase as responses are submitted in months following the period of data collection for this project. The interventions initiated for this study will continue in hopes of reaching that goal in months to come.

In an effort to increase response rates of the survey, process changes were made to increase distribution rate. These changes included instituting a formal process of distributing surveys in two different departments as well as reducing the re-survey time from 90 days to zero days, which will be discussed in the section to follow. These alterations allowed for the distribution rate of the survey moved from 43%-50% to 100%, which contributed to the increased response rate.

The results revealed that 35% of patients preferred a paper survey while 65% preferred an emailed survey. This finding is contrary to the study by Hardigan and colleagues stated that participants were more likely to prefer a paper survey. However, the studies that stated participants were more likely to respond to a paper survey (Guo et al., 2016; Hardigan et al., 2012; Yetter & Capaccioli, 2010) could support the increased

response rate. Because of an increased number of paper surveys being distributed, a higher response rate may be based on that increase. The increase in response rate was also supported by the studies that suggested pre-notification of the survey, personalization, and reminders (Aerny-Perretsen et al., 2015; Guo et al., 2016; Tolonen et al., 2014).

Limitations

Two weeks after initiating this DNP project, a phone call to the survey vendor revealed that issues in the distribution of the survey extended beyond the originally identified problems of inconsistent prompts from staff, incorrect email addresses, and a lack of offering of a paper survey. Upon speaking to the survey vendor, two issues were revealed to be contributing factors to the facility's low distribution and resulting response rate: (1) a discrepancy in one step of submitting information to the survey vendor that resulted in unsubmitted patient data and (2) a setting that prohibited a patient returning within 90 days to receive more than one survey. The second issue was significant because of this center's high patient population presenting for repeat pain procedures. These procedures are often scheduled every 2-3 weeks. Therefore, a patient returning for their second or third procedure would not receive a survey for those visits.

Process adjustments were made to accommodate these two limitations. First, the office staff was made aware of the correct sequence of information input and submission to the survey vendor. Through this intervention, the survey vendor would receive email addresses and patient information from every applicable patient on the day of their procedure. Second, the resurvey interval was decreased from 90 to 0 days, which made it possible for every patient to receive a survey at every visit. These modifications

contributed to the 100% distribution rate and present an additional variable to the established interventions.

An additional limitation that the ASC in this project possesses is its exclusivity to paper charts and an overall lack of a technology presence at this facility. This limitation created a hindrance to communication between different departments as well as communication with the patients. The paper charting also added additional steps to the process including manually attaching the preference forms, cover letters, and surveys to the chart. The lack of technology also presented a limitation in reminding the patients to complete their surveys. This facility has little to no email, text, or other virtual communication with its patients. These more on-demand communication styles could have been utilized if the technological infrastructure was in place.

Another limitation of this project and affected generalizability was the hurdle of staff buy-in at this facility. Upon initiation of this project, immediate push-back presented itself in some departments. The difficulty in the initiation of the project appeared to reflect an overall culture of the facility to resist change and new processes. Efforts were made to address concerns and modify the process within limits to ease the burden placed on staff. A bulletin board and physical reminders for staff were placed around the facility to encourage involvement. Finally, the staff was verbally coached along the way, updating them of progress and the positive impact of their role in bettering the outcomes for both the facility and its patients.

A final limitation is the additional cost of paper surveys. This facility pays a baseline fee for emailed surveys and processing by the survey vendor. An additional fee of \$3 for every paper survey processed is charged to the facility by the vendor. This fee

includes supply, postage, and processing costs. Based on the number of paper surveys delivered in February and March, the additional charge to the facility was roughly \$1,000. This charge is significant because the number of paper surveys distributed through this intervention greatly increased over previous months. With the accumulative increase in distribution of paper surveys over the following months, this cost could reveal burdensome for this facility's budget

Recommendations

Upon completion of data collection and analysis, results were reported to administration and management. Recommendations were made based on the results and the need for process modification. Because the results were an increased distribution rate and increased the response rate of the patient satisfaction survey, administration agreed to continue the interventions placed through this DNP project. In addition, the recommendations to accept staff feedback and streamline the process were accepted into practice.

The first recommendation was to consolidate the paper and email cover letters into one cover letter and add it to the patient's chart automatically. Having two cover letters was cumbersome to reception staff in their having to draw from different files to attach the document to the patient's chart. These documents could easily be combined with simple modifications in the language of the document. The combined document could then be entered into the electronic chart system that automatically prints the documents that make up the patient's chart. Through this intervention, the burden on the reception staff is even further reduced by having the letter on every chart without having

to manually attach it. This convenience streamlines the reception process making it easier for both patient and receptionist.

A second recommendation involves offering a follow-up survey to patients failing to respond after a given period of time. At this time, the patient is offered one survey and prompted for response both the same day and a few days after their procedure during the follow-up phone call. Guo et al. (2016) suggests that an increased response rate could be seen from offering a follow-up survey for those that failed to respond to the initial survey. The 2015 Mode Experiment conducted by CMS also supports a follow-up survey. This study found that for the OAS CAHPS survey, the mail only mode received a 37% response rate, the telephone-only mode a 34% response rate, and a 50% response rate for a mailed survey with telephone follow-up (OAS CAHPS, n.d.b). For this facility, a follow-up survey could be emailed out again from the survey vendor after a 30-day period of non-response, be mailed from the facility after the same time period, or even followed up with a telephone survey as CMS suggests (OAS CAHPS, n.d.b). This strategy would involve postage costs from the facility and a possible additional charge from the survey vendor as well as time costs from staff. However, the results may be worth the additional cost if the follow-up surveys yielded a higher response rate.

The process instituted through this DNP project could be implemented at other facilities with minor modifications based on the facility process. The process could be adapted and even improved at a facility that was more advanced in technology-care integration. Another recommendation for potential improvement is the offering of an SMS text reminder. A study conducted by Tolonen et al. (2014) revealed an increase in response rates with SMS text reminders following survey delivery. Additional ways

technology could enhance the survey delivery and response process would be reminders for staff to prompt survey response or a more streamlined paper-less process through electronic methods of distribution and procedure.

A final recommendation considers the burden of cost as mentioned above. The additional cost involved with the increasing distribution of paper surveys was discussed with administration. The recommendation is to monitor outcomes over the next few months to evaluate cost-benefit status.

These recommendations were made to administration along with the recommendation to establish a primary staff member to maintain the process and adjust accordingly. This project allowed for a designated role to include materials management as well as teammate support and data collection. As the ultimate goal of increasing response rates to a level that eliminates non-response bias has yet to be achieved, the process should continue over and may require additional support in the months to come. Therefore, an individual or committee over this issue would ensure the positive progress of the changes made through this DNP project.

Implications for Future Practice

Currently, this facility offers a hand-out paper survey and an emailed survey as the only modes for survey access. As stated previously, CMS reported an overall response rate of 39% for three modes: mail-only, telephone-only, and mail with telephone follow-up (OAS CAHPS, n.d.b). A 2019 Mode Experiment is currently underway to evaluate response rates from 5 modes of administration: mail only, telephone only, web only, web with mail follow-up and web with telephone follow-up (OAS CAHPS, n.d.b). Based on the recommended modes by CMS for the OAS CAHPS survey (OAS CAHPS,

n.d.b) and pending the 2019 Mode Experiment, additional modes of mail and telephone and mixed-modes with follow-up could be added to the existing email/web-based and hand-out paper survey to yield higher response rates.

Increasing response rates was the first issue of the larger plan to increase scores of this facility's patient satisfaction survey. With a 28% response rate, the scores did not reveal any significant change over the previous months. For example, the overall score for February 2018 was 89.2 while the overall score of February 2019 was 90.9, these scores are compared to the national average of 94.4 (SPH, 2019). Although the larger sample size did not reveal a significant change in scores, the facility did gain a more accurate perception of patient satisfaction, which was the purpose of this study. With this information, the facility can better understand the areas of success and those in need of improvement surrounding patient satisfaction. As the response rate continues to increase with continued implementation of this project and improvement of it, the possibility of non-response bias decreases. As this decrease occurs, the facility can more safely adjust practices based on more accurate survey data.

Based on the previously stated limitation of staff buy-in, a recommendation was made to engage stakeholders in every stage of planning and initiation of future interventions. Prior to the initiation of this project, the administration and nursing management were involved in creating the process flow. The staff in the PACU and front office were not involved in this phase. However, upon initiation of this project, the staff made known a desire for more opportunity to provide feedback and planning prior to initiation. Although every effort was made to accommodate their recommendations and adjust the process accordingly during implementation, their lack of involvement in the

planning phase of this project was an immediate hindrance to staff buy-in. In the future, this facility should involve stakeholders at every phase of a project process.

Conclusion

The immediate goal of increasing the patient satisfaction survey response rate by 20% was not achieved by the second month of data collection. However, the survey response rate had increased by 13%, from 14% to 27% by the conclusion of this project. The ultimate goal of this project was to accurately reflect patient satisfaction data to the public and to CMS by removing non-response bias. The increase in response rate seen as a result of this project brings this facility closer to that goal and provides a better sample for CMS to determine reimbursement. Donabedian's structure-process-outcome approach was used as a framework to examine and adjust the process of survey distribution and response. The overall response rate of 27-28% fell short of the recommended 60% response rate to eliminate non-response bias (Tyser et al., 2016). However, responses from this time frame are expected to continue to be reported in the months following this project which may reveal a higher response rate in subsequent reports. Also, recommendations to modify the process to make it more accessible for both staff and the patient have been accepted by the administrator. Process adjustments have been made to continue to increase response rates and to increase patient satisfaction scores. When compared to the original response rate of 14%, a 27-28% response rate reveals improvement and motivation to continue to reach the ideal response rate of 60%.

Currently, reporting for OAS CAHPS remains voluntary. However, this facility has set in motion a plan to continue to improve the quality of care its patients receive and a means to effectively measure it through the OAS CAHPS survey. As mandatory

reporting becomes a reality and CMS and the public become aware of this facility's patient satisfaction scores, this ASC in central Mississippi will be well prepared to embrace these changes. This project and its outcomes allow this ASC to more accurately reflect its patient satisfaction experiences. Through a wider sample of responses that this project provided, this ASC will receive feedback that can be used to improve satisfaction scores and ultimately achieve optimal reimbursement and recognition from CMS.

APPENDIX A – Evidence Matrix

Table A1.

Evidence Matrix

Author/Year/Title	Level/Grade	Design	Sample/Data Collection	Findings	Recommendations
Aerny-Perreten, N., Domínguez-Berjón, M. F., Esteban-Vasallo, M. D., & García-Riolobos, C. (2015). Participation and factors associated with late or non-response to an online survey in primary care.	II/A2	Randomized Control Trial	3,586 individuals consisting of primary care family physicians and nurses in Madrid.	Response rate increase after reminders were sent. Higher participation between ages 45-54, lower in age over 60. Initial response rates were higher in women.	The use of reminders for online surveys. Designers should evaluate for bias associated with late-responses or no-responses.
Guo, Y., Kopec, J. A., Cibere, J., Li, L. C., & Goldsmith, C. H. (2016). Population Survey Features and Response Rates: A Randomized Experiment.	II/A2	Randomized Control Trial	Survey delivered to 8000 randomly selected households, which were divided into 7 experimental groups based on study design. 2231 responses were received.	Paper surveys, use of coin incentives, instant-lottery incentives, and shorter surveys all yielded higher responses.	Further study is needed on the use of instant-lottery incentives. Continue study on the effects of survey design on response rate as society's needs and behaviors change.
Voutilainen, A. (2016). Meta-analysis: complex relationships between patient satisfaction, age, and item-level response rate.	I/A1	Meta-analysis	The phrase 'patient* satisfy* AND care' yielded 9824 selected articles. These articles were screened down to 39 articles for this meta-analysis.	Patient satisfaction, age, and item-level response rates are associated. Less satisfied patients tend to skip more items than more satisfied patients. Older patients are more likely to give positive responses.	Control needed for item-level response rates and patient age in improving validity of patient satisfaction surveys. This study recommends age-specific methods in collecting missing data.

Table A1 (continued).

<p>Hardigan, P., Succar, C., & Fleisher, J. (2012). An Analysis of Response Rate and Economic Costs Between Mail and Web-Based Surveys Among Practicing Dentists: A Randomized Trial.</p>	<p>II/A2</p>	<p>Randomized Control Trial</p>	<p>A random sample of 6,000 dentists taken from 14,000 population. Divided into three groups of 2,000 based on delivery method.</p>	<p>Response rates for mail were the highest, while web-based responses were lowest. When given the choice, more respondents chose mail (94%) over web-based surveys (6%).</p>	<p>This study was conducted on dentists. More research on the general population is recommended.</p>
<p>Tyser, A. R., Abtahi, A. M., McFadden, M., & Presson, A. P. (2016). Evidence of non-response bias in the Press-Ganey patient satisfaction survey.</p>	<p>III/C1</p>	<p>Correlational Study</p>	<p>Retrospective data collected from all adult patients who completed an outpatient encounter in the Department of Orthopedic surgery at this institution from 1/1/13-10/24/13 Sample divided into groups based on response and non-response.</p>	<p>16.5% response rate with a web-based survey. Older, female, private insurance patients were more likely to respond. Non-response bias present.</p>	<p>More studies on the effects of non-response rates on patient satisfaction surveys.</p>
<p>Yetter, G., & Capaccioli, K. (2010). Differences in responses to Web and paper surveys among school professionals.</p>	<p>II/A2</p>	<p>Randomized Control Trial</p>	<p>812 National Association of School Psychologists members sampled.</p>	<p>Participants were more likely to complete a paper survey versus a web-based. Shorter surveys yielded a higher response.</p>	<p>Survey participants should be offered the choice between paper or web-based surveys.</p>

Table A1 (continued).

<p>Tolonen, H., Aistrich, A., & Borodulin, K. (2014). Increasing health examination survey participation rates by SMS reminders and flexible examination times.</p>	<p>III/C1</p>	<p>Correlational Study</p>	<p>250 individuals aged 25-74 years taken from the Kuusamo Health Examination Survey in Finland.</p>	<p>The higher participation rate for women. Participation rates increased by age. Those receiving an SMS reminder were more likely to respond. SMS reminders are an effective way to increase participation rates, especially in a younger population.</p>	<p>Similar studies done in the United States.</p>
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APPENDIX B – Paper Survey Cover Letter

Dear patient:

This facility would like to learn more about the quality of health care that patients receive in our facility. An independent research company is helping us conduct this survey. The results of this survey will be used to help us understand more about patient experiences in our facility.

The enclosed survey asks for your experiences with the outpatient surgery or procedure you had at this facility. We hope that you will take a few minutes to complete and return the questionnaire to the survey vendor in the enclosed, postage-paid envelope.

When answering the questions, please consider today's visit. Do not answer questions based on any other surgeries or procedures you might have had at either this facility or another.

All information you provide will be confidential and is protected by the Privacy Act. Your answers to the survey will be grouped with answers from all other survey participants; your name and identifying information will not be linked to your answers when the data are analyzed. The overall survey results for this facility and other facilities will be publicly reported on the Internet at <https://www.medicare.gov/>. These results will help people make more informed decisions when choosing an outpatient or ambulatory surgery facility. Your participation is voluntary and will not affect any health care benefits you currently receive or will receive in the future.

If you have any questions about the survey, please call the facility administrator. If you need help in reading the questions or marking responses, a friend or family member can assist you. Thank you in advance for your participation.

Sincerely,

Administrator

APPENDIX C – Email Survey Cover Letter

Dear patient:

This facility would like to learn more about the quality of health care that patients receive in our facility. An independent research company is helping us conduct this survey. The results of this survey will be used to help us understand more about patient experiences in our facility.

You will receive an emailed survey asking for your experiences with the outpatient surgery or procedure you had at this facility. We hope that you will take a few minutes to complete and return the questionnaire to the survey vendor.

When answering the questions, please consider today's visit. Do not answer questions based on any other surgeries or procedures you might have had at either this facility or another.

All information you provide will be confidential and is protected by the Privacy Act. Your answers to the survey will be grouped with answers from all other survey participants; your name and identifying information will not be linked to your answers when the data are analyzed. The overall survey results for this facility and other facilities will be publicly reported on the Internet at <https://www.medicare.gov/>. These results will help people make more informed decisions when choosing an outpatient or ambulatory surgery facility. Your participation is voluntary and will not affect any health care benefits you currently receive or will receive in the future.

If you have any questions about the survey, please call the facility administrator. If you need help in reading the questions or marking responses, a friend or family member can assist you. Thank you in advance for your participation.

Sincerely,

Administrator

We want to hear from you!

How would you like to receive your survey?

Email

If selected, what is your email address?

Paper

Thank you,

For Administrative Use

The patient received a paper survey + cover letter
The patient received a cover letter for emailed survey
The patient received neither (please explain why)

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