

Patient engagement: an investigation at a primary care clinic

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Background: Engaged employees are an asset to any organization. They are instrumental in ensuring good commercial outcomes through continuous innovation and incremental improvement. A health care facility is similar to a regular work setting in many ways. A health care provider and a patient have roles akin to a team leader and a team member/stakeholder, respectively. Hence it can be argued that the concept of employee engagement can be applied to patients in health care settings in order to improve health outcomes.

Methods: Patient engagement data were collected using a survey instrument from a primary care clinic in the northern Indian state of Punjab. Canonical correlation equations were formulated to identify combinations which were strongly related to each other. In addition, the cause-effect relationship between patient engagement and patient-perceived health outcomes was described using structural equation modeling.

Results: Canonical correlation analysis showed that the first set of canonical variables had a fairly strong relationship, ie, a magnitude > 0.80 at the 95% confidence interval, for five dimensions of patient engagement. Structural equation modeling analysis yielded a $\beta \geq 0.10$ and a Student's t statistic ≥ 2.96 for these five dimensions. The threshold Student's t statistic was 1.99. Hence it was found the β values were significant at the 95% confidence interval for all census regions.

Conclusion: A scaled reliable survey instrument was developed to measure patient engagement. Better patient engagement is associated with better patient-perceived health outcomes. This study provides preliminary evidence that patient engagement has a causal relationship with patient-perceived health outcomes.

Keywords: patient engagement, health outcomes, communication, provider effectiveness, patient incentive

Introduction

This paper begins by exploring the existing literature to illustrate the concept of employee engagement. In the following section, a number of subconstructs of employee engagement are categorized as five key dimensions. These five dimensions of employee engagement are used to postulate five dimensions of patient engagement. Research hypotheses and research questions are presented. The next section describes the development of a survey instrument based on the five dimensions of patient engagement. This is followed by a section addressing data collection from a primary care clinic in the northern Indian state of Punjab. The data collected are then analyzed by using the canonical correlation and structural equation modeling techniques to test the hypotheses. The next section discusses the conclusions based on the results of the data analysis.

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Lastly, suggestions for future research are presented to validate and generalize the conclusions of this study.

Employee engagement

Engaged employees make organizations successful. Employees today are more aware, more educated, and more connected than ever before.¹ These employees not only strive for continuous improvement, but also innovate relentlessly. Highly engaged employees improve organizational performance and stakeholder value.² An engaged workforce ensures organizational viability by producing better business outcomes.

Researchers have not reached a consensus on the definition of employee engagement.³ However, a review of the existing research could help synthesize a fairly adequate description of the concept. Kahn maintains that employee engagement is concerned with adherence by employees to their assigned and expected roles.⁴ In other words, engaged employees productively apply themselves physically, cognitively, and emotionally during performance of their roles. Kahn also hypothesizes that attention and absorption are two critical components of employee engagement. Attention refers to cognitive availability and the amount of time one spends thinking about a role, while absorption means being engrossed in a role and refers to the intensity of one's focus on the role.⁵ Gibbons described employee engagement in terms of the emotional connection of an employee with the organization that influences him or her to apply discretionary effort to his or her work.⁶

Dimensions of employee engagement

Heintzman and Marson maintain that employee engagement is composed of two distinct yet related components, ie, employee commitment and employee satisfaction.⁷ This in fact is very similar to the seminal theory of hygiene and motivation factors proposed by Herzberg et al.⁸ Employee engagement could also be associated with the level of commitment or happiness a person assigns to work.⁹ Furthermore, engagement is the energy or passion that employees harbor for their jobs and their employer, which result in emotional and intellectual commitment to their organization.¹⁰ Nink and Klaus¹¹ classifies the widely used Q12[®] developed by Buckingham and Coffman¹² as basic needs, management support, teamwork, and growth. Cummins and Worley argue that four key elements of employee engagement are power, information, knowledge/skills, and rewards.¹³ Robinson et al have proposed that employee engagement consists of job satisfaction, friendliness at work, cooperation, health and

safety, pay and benefits, equal opportunities and fair treatment, communication, performance and appraisal, role of immediate management, and training, development, and career.¹⁴ Despite the many different ways in which employee engagement has been defined, Shaw maintains that it can be described by a few key dimensions.¹⁵ Grounded in a literature review, Gill proposes and has statistically validated five dimensions of employee engagement, ie, alignment with the organization, management effectiveness, salary and compensation, communication, and opportunity for development and recognition.¹⁶

Application of employee engagement dimensions in health care

An analogy could be made between a health care facility and a regular office setting. A patient guided by a health care provider is akin to an employee guided by a manager. On the one hand, a department of employees and managers strives to achieve better business outcomes. On the other hand, a clinic of patients and health care providers strive to achieve better health outcomes. Further, like all organizations, health care facilities are guided by policies and procedures. There could be many ways in which a health care facility might be different for other organizations, but there does seem to be a fair bit of similarity. Hence, in a health care setting, employee engagement and its five dimensions could be translated into patient engagement and its five dimensions. Proposed dimensions of patient engagement are compared with established dimensions of employee engagement in Table 1.

Alignment of objectives

Successful implementation of initiatives requires alignment of the employee with the mission/vision of the organization.¹⁷ Alignment ensures that employees comprehend clearly what they can contribute to the organization.¹⁸ Thus, proper alignment ensures better business outcomes. Similarly, in a health care setting, it is important that the objectives of patients and their health care providers are in alignment. Ideally, a health care plan and its objectives should be developed by

Table 1 Employee engagement versus patient engagement

Employee engagement	Patient engagement
Alignment with organization	Alignment of objectives
Communication	Communication
Opportunity for development and recognition	Information and encouragement
Salary and compensation	Patient incentives
Management effectiveness	Provider effectiveness

consensus between the health care provider and the patient. This would not only enhance the patient's understanding but would also ensure alignment of the patient with the direction of the health care provider. Existing studies have underscored the need to involve patients in decision-making related to health care.^{19,20}

Communication

Clear communication between health care providers and patients could clarify instructions for care effectively and could help to reduce errors and waste. Gill et al suggested that better communication could improve health literacy, which has an influence on the health status of the individual.²¹ Improved communication between health care providers and patients can assist in improving health outcomes.^{22–25} Further, interactions between patients and their caregivers could be beneficial. Gill and Whisnant reported that better communication with patients could also assist in addressing various health conditions.²⁶

Information and encouragement

Adequate training and recognition help to foster engagement in the work force.^{27–29} In the health care setting, this could be translated as: information, eg, pamphlets and booklets addressing specific issues and topics, access to counselors/social workers, and online knowledge bases and forums; and encouragement, ie, positive reinforcement, encouragement and praise for proactive initiatives and directions which are followed well.³⁰ The importance of health literacy has been well documented.^{31,32}

Provider effectiveness

The effectiveness of management can make or break an organization. Similarly, the effectiveness of health care providers is crucial for optimal health outcomes.^{33–35} Health care providers assess the patient's health status, establish a treatment plan, motivate patients, and improve their knowledge and understanding of their health condition.

Patient incentive

Like employees, patients have to take specific measures to reach predetermined (health) goals. Salary/compensation is a very effective motivator. Employees expect their organization to pay them fairly regardless of the industrial sector.^{36,37} In the health care setting, patients do not receive any financial compensation. However, intangible incentives could be provided in order to keep them engaged. The employee engagement dimension of salary/compensation can be

translated to patient engagement in terms of: improving access and affordability; value-added services, such as providing counseling on hygiene and lifestyle; and resources needed for care, eg, creation of an interpatient medical supplies exchange system.

Problem statement/research questions

Numerous articles are available which highlight the importance of patient engagement.^{38–42} However, few quantitative studies have been performed in developing nations. Further, patient engagement has not been studied adequately in primary care clinics, especially in northern India. The following research questions were addressed by this study:

- What relationship, if any, exists between the patient engagement dimension of alignment of objective, as defined by the patient survey, and patient-perceived health outcomes, as defined by the patient survey, at the primary care clinic?
- What relationship, if any, exists between the patient engagement dimension of communication, as defined by the patient survey, and patient-perceived health outcomes, as defined by the patient survey, at the primary care clinic?
- What relationship, if any, exists between the patient engagement dimension of information and encouragement, as defined by the patient survey, and patient-perceived health outcomes, as defined by the patient survey, at the primary care clinic?
- What relationship, if any, exists between the patient engagement dimension of patient incentive, as defined by the patient survey, and patient-perceived health outcomes, as defined by the patient survey, at the primary care clinic?
- What relationship, if any, exists between the patient engagement dimension of provider effectiveness, as defined by the patient survey, and patient-perceived health outcomes, as defined by the patient survey, at the primary care clinic?

Materials and methods

Data collection

This section describes various aspects of the development of the survey, including population, sample, internal and construct validity, readability, and scale reliability. It describes the data collection process used in this study. Statistical analyses and tests were performed at a 0.05 significance level.

External and internal validity

The sample population used in this study included patients from a privately owned primary care clinic in the northern Indian state of Punjab. Between October 1, 2012 and December 21, 2012, 94 surveys were completed. A total of 158 patients came for follow-up visits. The response rate was 59.49%. Cronbach's α was 84.92%, demonstrating that the survey instrument had an acceptable level of scale reliability.

Construct validity

The survey instrument was developed to capture information about each of the five dimensions of patient engagement. The questions were fashioned similar to those contained in Gallup Inc's CE11© survey instrument,⁴³ which has been used successfully by a number of US health organizations.⁴⁴⁻⁴⁶ The Picker Institute's dimensions of patient-centered care^{47,48} and survey questionnaires⁴⁹⁻⁵¹ were also reviewed to formulate questions included in the survey instrument. Hence, it was concluded that the survey instrument had adequate construct validity.

Data were collected using a survey instrument developed using the five dimensions of patient engagement described in the previous sections. The survey instrument itself was divided into six sections. The first section, with three questions, was allocated to patient-perceived health outcomes. The following five sections were dedicated to each of the five dimensions of patient engagement. The survey instrument also contained some information concerning purpose, instructions, anonymity, and submission. A large section of the population in the state of Punjab can understand English, but most can only read and write either Hindi or Punjabi.^{52,53}

The survey instrument was first drafted in English and then translated by the author into Hindi and Punjabi. Of note, the author is proficient in all three languages. Three versions of the survey were made available to the respondents so that they could choose the version they were comfortable with.

According to the Sarva Shiksha Abhiyan Authority of the Government of Punjab, about 81% of the population in the state have at least elementary level (fifth grade) education.⁵⁴ The readability of the Hindi and Punjabi versions of the survey was assessed to be satisfactory by 12 language teachers at five accredited elementary schools in the state of Punjab. The names and locations of the teachers and the schools are confidential because permission to disclose this information was not explicitly provided by the school administrators. The English version of the survey had a Flesch Reading Ease score of 60.1 (on a scale of 0–100, where 100 is the easiest to read) and a Flesch-Kincaid grade level score of 7.3. These scores indicate that the English version of the survey is relatively easy to read. The English version of the survey is presented in Appendix A. The Hindi version of the survey is presented in Appendix B. The Punjabi version of the survey is presented in Appendix C.

Data were collected from the primary care clinic in Punjab. In order to ensure complete confidentiality and anonymity, no identifying information about the clinic, its staff, or its patients is included in this study. Patients visited the clinic because of a wide range of ailments, making it hard to measure and compare health outcomes objectively. To address this problem, patients' perception of their health outcomes was measured. Paper-based survey forms were presented to the patients upon check-in at their second visit to the primary care clinic. This was done to ensure that patients

Table 2 Survey questions and associated codes

Question	Dimension	Code
My opinions always seem to count in treatment plan.	Alignment of objectives	All
My physician or an associate at this clinic cares for me as a person.	Alignment of objectives	A12
I always understand my physician and her/his directions.	Communication	Com1
I am always able to express my concerns at this clinic.	Communication	Com2
My physician always understands me.	Communication	Com3
My physician or an associate at this clinic always encourage me to make good lifestyle choices.	Information and encouragement	DR1
My physician or an associate at this clinic always recognize my efforts to ensure my wellbeing.	Information and encouragement	DR2
I have been provided adequate information about my condition by this clinic.	Information and encouragement	DR3
After treatment from this clinic I am satisfied with my health outcomes.	Patient health outcome	CLI
I will continue at this clinic.	Patient health outcome	CL2
I am satisfied with the services at this clinic.	Patient health outcome	CL3
I have the resources I need to ensure my wellbeing.	Patient incentive	Comp1
The services at this clinic are affordable.	Patient incentive	Comp2
This clinic is the perfect practice for people like me.	Provider effectiveness	PEff1
My physician or an associate at this clinic always delivers on what they promise.	Provider effectiveness	PEff2
I can always trust the name of this clinic.	Provider effectiveness	PEff3

had enough time to assess their health status since the time of their first visit. The survey forms were filled in by the patients or their accompanying friends/family members before they saw a health care provider. Participation in the survey was completely voluntary and anonymous. The patients and their accompanying friends/family members were informed that the data collected would be used for research purposes only. Furthermore, they were informed that no identifying information was being collected. The survey responses were tabulated into an electronic spreadsheet by an associate at the primary care clinic and emailed to the author for data analysis. The survey questions were coded for ease of data analysis. These codes are presented in Table 2.

Results and discussion

Data analysis

A descriptive data analysis for each of the survey questions is shown in Table 3. It was found that the average score for most questions was between 3 and 4. Most values for standardized skewness and standardized kurtosis are within the range of -2 and +2. In cases where these values were outside this range, large deviations were not observed. Hence, the data were assumed to be normally distributed.

Canonical correlation

The canonical correlation technique quantifies the relationship between two sets of variables. Scalar linear combinations of the first and second set of variables are defined. The relationship between the sets of variables is quantified in terms of the magnitude of the correlation between the two scalars.⁵⁵ For the purposes of this study, the survey questions associated with patient-perceived health outcomes formed the first set of variables. The survey questions associated with each of the patient engagement dimensions formed the second set of variables. The results of the canonical correlation are shown in Table 4.

It was found that every dimension of patient engagement demonstrated a fairly strong relationship with patient-perceived health outcomes at the 95% confidence interval. First combination between alignment of objectives and patient-perceived health outcomes had a canonical correlation of 0.89 and a *P* value of <0.01. First combination between communication and patient-perceived health outcomes had a canonical correlation of 0.96 and a *P* value of <0.01. First combination between information and encouragement and patient-perceived health outcomes had a canonical correlation of 0.88 and a *P* value of <0.01. First combination between patient incentive and patient-perceived health outcomes had a canonical correlation

Table 3 Descriptive analysis of survey data

	Alignment of objectives			Communication			Information and encouragement			Patient health outcome			Patient incentive			Provider effectiveness		
	All	A12	Com1	Com2	Com3	DRI	DR2	DR3	CLI	CL2	CL3	Compl	Comp2	PEff1	PEff2	PEff3		
Count	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94		
Average	3.35	3.37	3.39	3.31	3.27	3.29	3.34	3.32	3.91	4.04	3.76	3.39	3.39	3.30	3.30	3.37		
Standard deviation	0.83	0.84	0.81	0.82	0.81	0.81	0.82	0.82	0.77	0.80	0.94	0.71	0.72	0.83	0.76	0.82		
Minimum	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1		
Maximum	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5		
Standard skewness	-2.92	-2.73	-2.33	-1.05	-0.58	-2.77	-0.95	-2.12	-3.96	-3.43	-4.03	-2.17	-0.92	-2.41	-2.23	-2.64		
Standard kurtosis	1.28	1.18	1.00	1.97	-0.30	1.04	0.84	0.27	2.55	3.05	1.55	1.08	1.25	0.98	1.19	0.56		

Table 4 Canonical correlation analysis by dimensions of patient engagement

Canonical correlation of patient health outcome with	Combination #	Canonical Correlation	Wilks Lambda	P-value
Alignment of objectives	1	0.89	0.13	<0.01
Alignment of objectives	2	0.13	0.98	0.46
Communication	1	0.96	0.08	<0.01
Communication	2	0.13	0.98	0.76
Information and encouragement	1	0.88	0.10	<0.01
Information and encouragement	2	0.24	0.94	0.27
Patient incentive	1	0.81	0.26	<0.01
Patient incentive	2	0.18	0.97	0.23
Provider effectiveness	1	0.95	0.09	<0.01
Provider effectiveness	2	0.19	0.94	0.27

of 0.81 and a *P* value of <0.01. First combination between provider effectiveness and patient-perceived health outcomes had a canonical correlation of 0.95 and a *P* value of <0.01. The first combination equations for dimension are shown in Table 5. Canonical correlation analyses provided evidence for a strong relationship between patient-perceived health outcomes and dimensions of patient engagement. Even though all coefficients on the canonical correlation equations for dimensions of patient engagement are positive, they do not provide a clear picture of the proportionality of this relationship. The structural equation modeling technique was used to explore the proportionality issue further.

Structural equation modeling

Structural equation modeling was used to investigate the relationship between patient-perceived health outcomes and patient engagement in more depth. Structural equation modeling can be used to test causal relationships between constructs built upon measurable variables.⁵⁶ The structural equation modeling technique used for this study involved

the covariance-based partial least square path model method. The path model is an a priori hypothesis about a pattern of linear relationships among a set of observed and unobserved variables. It is defined by two sets of linear equations, ie, the inner model and the outer model. The inner model specifies the relationships between unobserved or latent variables. The outer model specifies the relationships between a latent variable and its observed or manifest variables. Latent variables are hypothetical constructs that cannot be directly measured, and are represented by multiple manifest variables that serve as representatives of the underlying constructs.^{57–59} The structural equation modeling-partial least square path model can be used for any type of distribution and any size of sample.⁵⁸

The individual path coefficients of the structural equation modeling-partial least square path model can be interpreted as standardized β coefficients of ordinary least squares regressions. Structural paths, the signs of which are in keeping with a priori postulated algebraic signs, provide a partial

Table 5 First combination of canonical correlation equations between patient-perceived health outcome and all dimensions of patient engagement

Combination between	First combination of canonical correlation equations
Patient health outcome	$0.64 \times \text{CLI} - 0.07 \times \text{CL2} + 0.62 \times \text{CL3}$
Alignment of objectives	$0.53 \times \text{A11} + 0.54 \times \text{A12}$
Patient health outcome	$0.55 \times \text{CLI} + 0.10 \times \text{CL2} + 0.63 \times \text{CL3}$
Communication	$0.26 \times \text{Com1} + 0.43 \times \text{Com2} + 0.43 \times \text{Com3}$
Patient health outcome	$0.50 \times \text{CLI} - 0.01 \times \text{CL2} + 0.73 \times \text{CL3}$
Information and encouragement	$0.37 \times \text{DR1} + 0.37 \times \text{DR2} + 0.36 \times \text{DR3}$
Patient health outcome	$0.44 \times \text{CLI} + 0.41 \times \text{CL2} + 0.51 \times \text{CL3}$
Patient incentive	$0.54 \times \text{Comp1} + 0.54 \times \text{Comp2}$
Patient health outcome	$0.56 \times \text{CLI} + 0.03 \times \text{CL2} + 0.66 \times \text{CL3}$
Provider effectiveness	$0.38 \times \text{PEff1} + 0.37 \times \text{PEff2} + 0.36 \times \text{PEff3}$

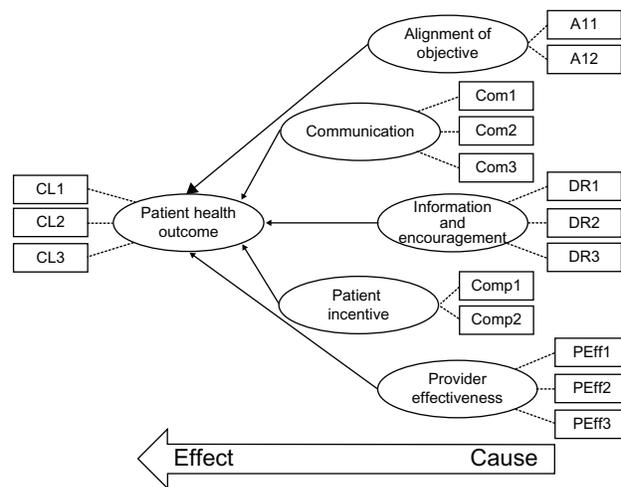


Figure 1 Structural equation modeling-partial least squares path model for all paths between patient-perceived health outcomes and dimensions of patient engagement.

Table 6 Path coefficient β , Student's t statistic, and bootstrap sample rate used for each path

Path	Path coefficient β	Student's t value	Threshold value at 95% conf. interval (2 tailed)	Threshold value at 99% conf. interval (2 tailed)	Bootstrap rate
Alignment of objective → Patient health outcome	0.18	3.81	1.99	2.64	100
Alignment of objective → Patient health outcome		3.53			300
Alignment of objective → Patient health outcome		3.58			500
Communication → Patient health outcome	0.31	4.88	1.99	2.64	100
Communication → Patient health outcome		5.00			300
Communication → Patient health outcome		5.27			500
Information and encouragement → Patient health outcome	0.18	2.96	1.99	2.64	100
Information and encouragement → Patient health outcome		3.06			300
Information and encouragement → Patient health outcome		3.11			500
Patient incentive → Patient health outcome	0.10	3.41	1.99	2.64	100
Patient incentive → Patient health outcome		2.98			300
Patient incentive → Patient health outcome		2.97			500
Provider effectiveness → Patient health outcome	0.28	4.72	1.99	2.64	100
Provider effectiveness → Patient health outcome		4.63			300
Provider effectiveness → Patient health outcome		4.79			500

empirical validation of the theoretically assumed relationships between latent variables. Paths that possess an algebraic sign contrary to expectations do not support the hypotheses formed a priori. Parameter estimates are obtained based on the ability to minimize the residual variance of dependent variables.⁵⁷ A bootstrapping resampling algorithm was used to determine the confidence intervals in terms of the Student's t statistic for the β coefficients. This in turn helps to draw statistical inferences.⁵⁷

The structural equation modeling-partial least square path model and β coefficients are shown in Figure 1. The Student's t values and bootstrap sample rates are shown in Table 6. For data samples with 92 degrees of freedom, statistical significance is demonstrated at a two-sided 95% confidence interval if the Student's t values are ≥ 1.99 . At a 99% confidence interval, statistical significance is demonstrated by Student's t values ≥ 2.64 . The degrees of freedom associated with the threshold values were calculated from the number of data points. For all dimensions of patient engagement, the Student's t statistic was found to be greater than the threshold values for both 95% and 99% confidence intervals. Furthermore, all the β values are positive. These findings provide preliminary evidence that a high level of patient engagement could result in better health outcomes.

The results of canonical correlation and structural equation modeling analyses not only provided statistical evidence but also quantified the relationships between dimensions of patient engagement, as defined by the patient survey, and patient-perceived health outcomes, as defined by the patient survey at the primary care clinic.

Conclusion

This data analysis shows that five dimensions of patient engagement, ie, alignment of objective, communication, information and encouragement, patient incentive, and provider effectiveness had a statistically significant relationship with patient-perceived health outcomes at a primary care clinic. It must be noted that the results of this study come from a single primary care unit in a specific region. Hence it is necessary for this exercise be repeated in future research at other clinics and locations in order to generalize and validate these findings. Canonical correlation and structural equation modeling showed that, among the dimensions of patient engagement, patient incentive had the least impact on patient-perceived health outcomes. On the other hand, communication and provider effectiveness had the most impact. This finding provides a clue as to where health care facilities should invest to maximize their returns. In other words, if

health care facilities could improve the soft skills of their health care providers, health outcomes could be improved for patients. Canonical equations could serve as predictive models to calculate projected change in the patient-perceived health outcomes given a specific change in patient engagement. Nonetheless, it must be underscored that the results of this study are limited to only one health clinic, and need to be validated by repeating similar studies in different clinics and over extended time periods.

The survey instrument showed high scale reliability (Cronbach's $\alpha = 85\%$). The readability (Flesch Reading Ease score = 60.1, Flesch-Kincaid grade level score = 7.3) of the English version of the survey could be rated as fairly easy. In addition, the subjective readability of the Hindi and Punjabi versions was also rated as acceptable. Hence, the survey instrument could be used in health care settings in other geographical regions.

The results of this structural equation modeling analysis provide preliminary evidence that patient engagement has a causal impact on patient-perceived health outcomes. These findings consolidate the conclusions of numerous previous studies.^{60–65} Future experimental research is needed to verify the effect of patient engagement on specific objectively measured patient health outcomes. Such studies could also isolate specific dimensions of patient engagement which consistently have the most impact on patient health outcomes. Generalization of the causal relationship could help health care facilities to invest their limited resources effectively to maximize the health benefits for their patients.

Disclosure

The author reports no conflicts of interest in this work.

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Appendix A

Patient engagement survey (English version)

Purpose:

This survey is being conducted to assist this clinic in identifying patient concerns and improving its performance.

Instructions:

Please complete all of the questions in each of the following sections. In doing so, please provide only one response for each scaled item.

Anonymity:

Please do not reveal your identity. No identifying information is being collected. No identifying information is needed to complete this survey.

Submission:

Please complete and submit this survey in the collection box by the front desk.

Patient Perceived Health Outcomes

- After treatment from this clinic I am satisfied with my health outcomes.

Strongly Disagree Disagree No Opinion Agree Strongly Agree

- I will continue at this clinic.

Strongly Disagree Disagree No Opinion Agree Strongly Agree

- I am satisfied with the services at this clinic.

Strongly Disagree Disagree No Opinion Agree Strongly Agree

Provider Effectiveness

- This clinic is the perfect practice for people like me.

Strongly Disagree Disagree No Opinion Agree Strongly Agree

- My physician or an associate at this clinic always delivers on what they promise.

Strongly Disagree Disagree No Opinion Agree Strongly Agree

- I can always trust the name of this clinic.

Strongly Disagree Disagree No Opinion Agree Strongly Agree

Communication

- I always understand my physician and her/his directions.

Strongly Disagree Disagree No Opinion Agree Strongly Agree

- I am always able to express my concerns at this clinic.

Strongly Disagree Disagree No Opinion Agree Strongly Agree

- My physician always understands me.

Strongly Disagree Disagree No Opinion Agree Strongly Agree

Patient incentive

- I have the resources I need to ensure my wellbeing.

Strongly Disagree Disagree No Opinion Agree Strongly Agree

- The services at this clinic are affordable.

Strongly Disagree Disagree No Opinion Agree Strongly Agree

Alignment of objectives

- My opinions always seem to count in treatment plan.

Strongly Disagree Disagree No Opinion Agree Strongly Agree

- My physician or an associate at this clinic always cares for me as a person.

Strongly Disagree Disagree No Opinion Agree Strongly Agree

Information & encouragement

- My physician or an associate at this clinic always encourage me to make good lifestyle choices.

Strongly Disagree Disagree No Opinion Agree Strongly Agree

- My physician or an associate at this clinic always recognize my efforts to ensure my wellbeing.

Strongly Disagree Disagree No Opinion Agree Strongly Agree

- I have been provided adequate information about my condition by this clinic.

Strongly Disagree Disagree No Opinion Agree Strongly Agree

Appendix B

Patient engagement survey (Hindi version)

उद्देश्य:

इस सर्वेक्षण से हम आपके मुद्दों की पहचान करना चाहते हैं ताकि हम अपने प्रदर्शन में सुधार सकें।

निर्देश:

प्रत्येक प्रश्न का उत्तर दें। हर प्रश्न का केवल एक उत्तर दें।

आपकी पहचान:

अपनी पहचान उजागर मत करें। कोई पहचान संबंधित जानकारी एकत्र नहीं की जा रही। पहचान संबंधित जानकारी इस सर्वेक्षण को पूरा करने के लिए आवश्यक नहीं है।

संग्रह:

इस सर्वेक्षण को पूरा करने के बाद इसे क्लिनिक के सामने लगे संग्रह बॉक्स में डाल दें।

रोगी व्यक्ति स्वास्थ्य परिणाम

- इस क्लिनिक से उपचार के बाद मैं अपने स्वास्थ्य परिणामों से संतुष्ट हूँ।
पूरी तरह असहमत असहमत कोई राय नहीं सहमत पूरी तरह सहमत
- मैं इस क्लिनिक के साथ बना/बनी रहूँगा/रहुँगी।
पूरी तरह असहमत असहमत कोई राय नहीं सहमत पूरी तरह सहमत
- मैं इस क्लिनिक की सेवाओं से संतुष्ट हूँ।
पूरी तरह असहमत असहमत कोई राय नहीं सहमत पूरी तरह सहमत

स्वास्थ्य कार्यकर्ता प्रभावशीलता

- यह क्लिनिक मेरे जैसे लोगों के लिए एकदम सही है।
पूरी तरह असहमत असहमत कोई राय नहीं सहमत पूरी तरह सहमत
- मेरा/मेरी चिकित्सक या इस क्लिनिक का/की कोई कर्मचारी हमेशा स्वयं-नियत कार्य पूर्ण करते हैं।
पूरी तरह असहमत असहमत कोई राय नहीं सहमत पूरी तरह सहमत
- मैं हमेशा इस क्लिनिक के नाम पर भरोसा कर सकता/सकती हूँ।
पूरी तरह असहमत असहमत कोई राय नहीं सहमत पूरी तरह सहमत

संवाद

- मैं हमेशा अपने चिकित्सक और उनके निर्देशों को समझ सकता/सकती हूँ।
पूरी तरह असहमत असहमत कोई राय नहीं सहमत पूरी तरह सहमत
- इस क्लिनिक में मैं अपनी चिंताओं को व्यक्त कर सकता/सकती हूँ।
पूरी तरह असहमत असहमत कोई राय नहीं सहमत पूरी तरह सहमत
- मेरा/मेरी चिकित्सक मुझे हमेशा समझता/समझती है।
पूरी तरह असहमत असहमत कोई राय नहीं सहमत पूरी तरह सहमत

प्रतिफल

- मेरे पास अपना स्वास्थ्य ठीक रखने के लिए पर्याप्त संसाधन हैं।
पूरी तरह असहमत असहमत कोई राय नहीं सहमत पूरी तरह सहमत
- इस क्लिनिक की सेवाएं किफायती हैं।
पूरी तरह असहमत असहमत कोई राय नहीं सहमत पूरी तरह सहमत

उद्देश्यों की सहमति

- मेरी राय हमेशा उपचार योजना में शामिल जाती है।
पूरी तरह असहमत असहमत कोई राय नहीं सहमत पूरी तरह सहमत
- मेरा/मेरी चिकित्सक या इस क्लिनिक का/की कोई कर्मचारी हमेशा मेरी परवाह करते हैं।
पूरी तरह असहमत असहमत कोई राय नहीं सहमत पूरी तरह सहमत

सूचना और प्रोत्साहन

- मेरा/मेरी चिकित्सक या इस क्लिनिक का/की कोई कर्मचारी हमेशा मुझे अच्छी जीवन शैली अपनाने के लिए प्रोत्साहित करते हैं।
 पूरी तरह असहमत असहमत कोई राय नहीं सहमत पूरी तरह सहमत
- मेरा/मेरी चिकित्सक या इस क्लिनिक का/की कोई कर्मचारी हमेशा मेरे स्वास्थ्य से संबंधित प्रयासों को मान्यता देते हैं।
 पूरी तरह असहमत असहमत कोई राय नहीं सहमत पूरी तरह सहमत
- इस क्लिनिक द्वारा मुझे मेरे स्वास्थ्य से संबंधित पर्याप्त जानकारी उपलब्ध कराई है।
 पूरी तरह असहमत असहमत कोई राय नहीं सहमत पूरी तरह सहमत

Appendix C

Patient engagement survey (Punjabi version)

ਉਦੇਸ਼:

ਇਸ ਸਰਵੇਖਣ ਰਾਹੀਂ ਅਸੀਂ ਤੁਹਾਡੇ ਮੁਦਿਯਾਂ ਦੀ ਪਹਿਚਾਣ ਕਰਣਾ ਚਾਹੁੰਦੇ ਹਾਂ ਤਾਂਕਿ ਅਸੀਂ ਆਪਣੇ ਨਿਸ਼ਪਾਦਨ ਵਿੱਚ ਸੁਧਾਰ ਸਕੀਏ।

ਨਿਰਦੇਸ਼:

ਹਰ ਇੱਕ ਪ੍ਰਸ਼ਨ ਦਾ ਜਵਾਬ ਦਿਓ। ਹਰ ਪ੍ਰਸ਼ਨ ਦਾ ਕੇਵਲ ਇੱਕ ਜਵਾਬ ਦਿਓ।

ਤੁਹਾਡੀ ਪਹਿਚਾਣ:

ਆਪਣੀ ਪਹਿਚਾਣ ਪਰਗਟ ਨਾ ਕਰੋ। ਕੋਈ ਪਹਿਚਾਣ ਸਬੰਧਤ ਜਾਣਕਾਰੀ ਇਕੱਠੀ ਨਹੀਂ ਕੀਤੀ ਜਾ ਰਹੀ। ਪਹਿਚਾਣ ਸਬੰਧਤ ਜਾਣਕਾਰੀ ਇਸ ਸਰਵੇਖਣ ਨੂੰ ਪੂਰਾ ਕਰਣ ਲਈ ਜ਼ਰੂਰੀ ਨਹੀਂ ਹੈ।

ਸੰਗ੍ਰਿਹ:

ਇਸ ਸਰਵੇਖਣ ਨੂੰ ਪੂਰਾ ਕਰਣ ਦੇ ਬਾਅਦ ਇਸਨੂੰ ਕਲਿਨਿਕ ਦੇ ਸਾਹਮਣੇ ਲੱਗੇ ਸੰਗ੍ਰਿਹ ਬਾਕਸ ਵਿੱਚ ਪਾ ਦਿਓ।

ਰੋਗੀ ਵਿਅਕਤ ਸਿਹਤ ਨਤੀਜੇ

- ਇਸ ਕਲਿਨਿਕ ਵਲੋਂ ਉਪਚਾਰ ਦੇ ਬਾਅਦ ਮੈਂ ਆਪਣੇ ਸਿਹਤ ਨਤੀਜਿਆਂ ਤੋਂ ਸੰਤੁਸ਼ਟ ਹਾਂ।

ਪੂਰੀ ਤਰ੍ਹਾਂ ਅਸਹਮਤ	ਅਸਹਮਤ	ਕੋਈ ਰਾਏ ਨਹੀਂ	ਸਹਿਮਤ	ਪੂਰੀ ਤਰ੍ਹਾਂ ਸਹਿਮਤ
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- ਮੈਂ ਇਸ ਕਲਿਨਿਕ ਦੇ ਨਾਲ ਬਣਾ/ਬਣੀ ਰਹਾਗਾਂ/ ਰਹੁੰਗੀ।

ਪੂਰੀ ਤਰ੍ਹਾਂ ਅਸਹਮਤ	ਅਸਹਮਤ	ਕੋਈ ਰਾਏ ਨਹੀਂ	ਸਹਿਮਤ	ਪੂਰੀ ਤਰ੍ਹਾਂ ਸਹਿਮਤ
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- ਮੈਂ ਇਸ ਕਲਿਨਿਕ ਦੀਆਂ ਸੇਵਾਵਾਂ ਤੋਂ ਸੰਤੁਸ਼ਟ ਹਾਂ।

ਪੂਰੀ ਤਰ੍ਹਾਂ ਅਸਹਮਤ	ਅਸਹਮਤ	ਕੋਈ ਰਾਏ ਨਹੀਂ	ਸਹਿਮਤ	ਪੂਰੀ ਤਰ੍ਹਾਂ ਸਹਿਮਤ
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ਸਿਹਤ ਕਰਮਚਾਰੀ ਪ੍ਰਭਾਵਸ਼ੀਲਤਾ

- ਇਹ ਕਲਿਨਿਕ ਮੇਰੇ ਵਰਗੇ ਲੋਕਾਂ ਲਈ ਇੱਕਦਮ ਠੀਕ ਹੈ।

ਪੂਰੀ ਤਰ੍ਹਾਂ ਅਸਹਮਤ	ਅਸਹਮਤ	ਕੋਈ ਰਾਏ ਨਹੀਂ	ਸਹਿਮਤ	ਪੂਰੀ ਤਰ੍ਹਾਂ ਸਹਿਮਤ
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- ਮੇਰਾ/ਮੇਰੀ ਚਿਕਿਤਸਕ ਜਾਂ ਇਸ ਕਲਿਨਿਕ ਦਾ/ਦੀ ਕੋਈ ਕਰਮਚਾਰੀ ਹਮੇਸ਼ਾ ਆਪ - ਨਿਅਤ ਕਾਰਜ ਪੂਰਾ ਕਰਦੇ ਹਨ।

ਪੂਰੀ ਤਰ੍ਹਾਂ ਅਸਹਮਤ	ਅਸਹਮਤ	ਕੋਈ ਰਾਏ ਨਹੀਂ	ਸਹਿਮਤ	ਪੂਰੀ ਤਰ੍ਹਾਂ ਸਹਿਮਤ
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- ਮੈਂ ਹਮੇਸ਼ਾ ਇਸ ਕਲਿਨਿਕ ਦੇ ਨਾਮ ਉੱਤੇ ਭਰੋਸਾ ਕਰ ਸਕਦਾ/ਸਕਦੀ ਹਾਂ।

ਪੂਰੀ ਤਰ੍ਹਾਂ ਅਸਹਮਤ	ਅਸਹਮਤ	ਕੋਈ ਰਾਏ ਨਹੀਂ	ਸਹਿਮਤ	ਪੂਰੀ ਤਰ੍ਹਾਂ ਸਹਿਮਤ
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ਸੰਵਾਦ

- ਮੈਂ ਹਮੇਸ਼ਾ ਆਪਣੇ ਚਿਕਿਤਸਕ ਅਤੇ ਉਨ੍ਹਾਂ ਦੇ ਨਿਰਦੇਸ਼ਾਂ ਨੂੰ ਸੱਮਝ ਸਕਦਾ/ਸਕਦੀ ਹਾਂ।

ਪੂਰੀ ਤਰ੍ਹਾਂ ਅਸਹਮਤ	ਅਸਹਮਤ	ਕੋਈ ਰਾਏ ਨਹੀਂ	ਸਹਿਮਤ	ਪੂਰੀ ਤਰ੍ਹਾਂ ਸਹਿਮਤ
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- ਇਸ ਕਲਿਨਿਕ ਵਿੱਚ ਮੈਂ ਆਪਣੀ ਚਿੰਤਾਵਾਂ ਨੂੰ ਵਿਅਕਤ ਕਰ ਸਕਦਾ/ਸਕਦੀ ਹਾਂ।

ਪੂਰੀ ਤਰ੍ਹਾਂ ਅਸਹਮਤ	ਅਸਹਮਤ	ਕੋਈ ਰਾਏ ਨਹੀਂ	ਸਹਿਮਤ	ਪੂਰੀ ਤਰ੍ਹਾਂ ਸਹਿਮਤ
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- ਮੇਰਾ/ਮੇਰੀ ਚਿਕਿਤਸਕ ਮੈਨੂੰ ਹਮੇਸ਼ਾ ਸੱਮਝਦਾ/ਸੱਮਝਦੀ ਹੈ।

ਪੂਰੀ ਤਰ੍ਹਾਂ ਅਸਹਮਤ	ਅਸਹਮਤ	ਕੋਈ ਰਾਏ ਨਹੀਂ	ਸਹਿਮਤ	ਪੂਰੀ ਤਰ੍ਹਾਂ ਸਹਿਮਤ
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ਪ੍ਰਤੀਫਲ

- ਮੇਰੇ ਕੋਲ ਅਪਣੀ ਸਿਹਤ ਠੀਕ ਰੱਖਣ ਲਈ ਕਾਫ਼ੀ ਸੰਸਾਧਨ ਹਨ।

ਪੂਰੀ ਤਰ੍ਹਾਂ ਅਸਹਮਤ	ਅਸਹਮਤ	ਕੋਈ ਰਾਏ ਨਹੀਂ	ਸਹਿਮਤ	ਪੂਰੀ ਤਰ੍ਹਾਂ ਸਹਿਮਤ
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- ਇਸ ਕਲਿਨਿਕ ਦੀਆਂ ਸੇਵਾਵਾਂ ਕਿਫਾਇਤੀ ਹਨ।

ਪੂਰੀ ਤਰ੍ਹਾਂ ਅਸਹਮਤ	ਅਸਹਮਤ	ਕੋਈ ਰਾਏ ਨਹੀਂ	ਸਹਿਮਤ	ਪੂਰੀ ਤਰ੍ਹਾਂ ਸਹਿਮਤ
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ਪੂਰੀ ਤਰ੍ਹਾਂ ਅਸਹਮਤ	ਅਸਹਮਤ	ਕੋਈ ਰਾਏ ਨਹੀਂ	ਸਹਿਮਤ	ਪੂਰੀ ਤਰ੍ਹਾਂ
ਸਹਿਮਤ				
<ul style="list-style-type: none"> ਮੇਰਾ/ਮੇਰੀ ਚਿਕਿਤਸਕ ਜਾਂ ਇਸ ਕਲਿਨਿਕ ਦਾ/ਦੀ ਕੋਈ ਕਰਮਚਾਰੀ ਹਮੇਸ਼ਾ ਮੇਰੀ ਪਰਵਾਹ ਕਰਦੇ ਹਨ। 				
ਪੂਰੀ ਤਰ੍ਹਾਂ ਅਸਹਮਤ	ਅਸਹਮਤ	ਕੋਈ ਰਾਏ ਨਹੀਂ	ਸਹਿਮਤ	ਪੂਰੀ ਤਰ੍ਹਾਂ ਸਹਿਮਤ
ਸੂਚਨਾ ਅਤੇ ਪ੍ਰੋਤਸਾਹਨ				
<ul style="list-style-type: none"> ਮੇਰਾ/ਮੇਰੀ ਚਿਕਿਤਸਕ ਜਾਂ ਇਸ ਕਲਿਨਿਕ ਦਾ/ਦੀ ਕੋਈ ਕਰਮਚਾਰੀ ਹਮੇਸ਼ਾ ਮੈਨੂੰ ਚੰਗੀ ਜੀਵਨ ਸ਼ੈਲੀ ਅਪਨਾਉਣ ਲਈ ਪ੍ਰੋਤਸਾਹਿਤ ਕਰਦੇ ਹਨ। 				
ਪੂਰੀ ਤਰ੍ਹਾਂ ਅਸਹਮਤ	ਅਸਹਮਤ	ਕੋਈ ਰਾਏ ਨਹੀਂ	ਸਹਿਮਤ	ਪੂਰੀ ਤਰ੍ਹਾਂ ਸਹਿਮਤ
<ul style="list-style-type: none"> ਮੇਰਾ/ਮੇਰੀ ਚਿਕਿਤਸਕ ਜਾਂ ਇਸ ਕਲਿਨਿਕ ਦਾ/ਦੀ ਕੋਈ ਕਰਮਚਾਰੀ ਹਮੇਸ਼ਾ ਮੇਰੀ ਸਿਹਤ ਸਬੰਧਤ ਕੋਸ਼ਿਸ਼ਾਂ ਨੂੰ ਮਾਨਤਾ ਦਿੰਦੇ ਹਨ। 				
ਪੂਰੀ ਤਰ੍ਹਾਂ ਅਸਹਮਤ	ਅਸਹਮਤ	ਕੋਈ ਰਾਏ ਨਹੀਂ	ਸਹਿਮਤ	ਪੂਰੀ ਤਰ੍ਹਾਂ ਸਹਿਮਤ
<ul style="list-style-type: none"> ਇਸ ਕਲਿਨਿਕ ਦੁਆਰਾ ਮੈਨੂੰ ਮੇਰੀ ਸਿਹਤ ਨਾਲ ਸਬੰਧਤ ਸਮਰੱਥ ਜਾਣਕਾਰੀ ਉਪਲੱਬਧ ਕਰਾਈ ਹੈ। 				
ਪੂਰੀ ਤਰ੍ਹਾਂ ਅਸਹਮਤ	ਅਸਹਮਤ	ਕੋਈ ਰਾਏ ਨਹੀਂ	ਸਹਿਮਤ	ਪੂਰੀ ਤਰ੍ਹਾਂ ਸਹਿਮਤ

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