The Impact of a Nurse Navigator Program on Patient Engagement

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Introduction

The title of this Direct Practice Improvement (DPI) Project is *The Impact of a Nurse Navigation Program on Patient Engagement.* The project was conducted at an outpatient healthcare facility in Texas.

Improving patient engagement through the availability of support that includes patient centered care, care coordination, education, shared decision-making, and partnership in the healthcare delivery process is an important precursor to the delivery of quality patient care (Barello, Graffigna & Vegni, 2012).

Problem Statement

At this ambulatory health care facility, it is not known if or what organizational factors or processes are contributing to stagnation of progress towards achieving quality outcome scores at or above programmed benchmarks. The facility experiences challenges to achieving acceptable measures in access, hospital admissions, patient satisfaction, and clinical outcomes measures as evidence by the Strategic Analytics for Improvement and Learning data. There is consensus and perception among the leadership that patients are not actively engaged in their care processes.

Purpose of the Project

To measure and describe the impact of a nurse navigation program on patient engagement, a precursor to quality patient care outcomes.

Clinical Question/PICOT

In patients at a Veterans Administration outpatient facility, how does a nurse navigator program, compared to before the implementation of the nurse navigator program, increase patient engagement as measured by the PHE-s over a period of six weeks?

P – Patients at a Veterans Administration
I – Implementation of an individualized nurse navigation.
C – Before implementation of the nurse navigation program.
O – Increased patient engagement as measured by the Patient Health Engagement Scale
T – Duration of measurements will be 6 weeks

Variables

- Independent variable – the implementation of a nurse navigator program
  - Harold P. Freeman Model for Patient Navigation
  - Nine principles of patient navigation
- Dependent variable – the level of patient engagement as measured by the Patient Health Engagement Scale (PHE-s)
  - Patient Health Engagement Model

Data Analysis

Cronbach's Alpha Coefficients for Engagement at Pre-test and Post -test

Variable	Number of Items	Cronbach's Alpha
Pre-test Engagement	5	.90
Post-test Engagement	5	.88

- Cronbach's Alpha analysis of internal consistency demonstrate high reliability of the PHE-s pre and post-tests, .90 and .88 respectively.

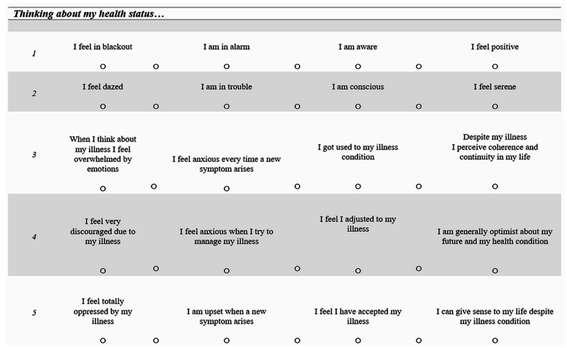
Descriptive Data

Demographic Characteristics of the Sample

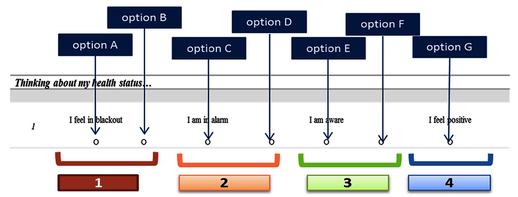
Variable	Frequency	Percent
Gender		
Female	4	11.1
Male	32	88.9
Age		
<30	2	5.6
30-45	4	11.1
46-60	10	27.8
>60	20	55.6
Clinic		
Cardiology	8	22.2
Medical Services	12	33.3
Orthopedic	16	44.4

Descriptive Statistics for Engagement at Pre-test and Post-test

Variable	Blackout (1)	Arousal (2)	Adhesion (3)	Eudaimonic Project (4)
	n (%)	*n* (%)	*n* (%)	*n* (%)
Pre-test Engagement	6 (16.7	10 (27.8)	14 (38.9)	6 (16.7)
Post-test Engagement	2 (5.6)	7 (19.4)	14 (38.9)	13 (36.1)



The PHE-s (Graffigna, Barello, Bonanomi, & Lozza, 2015)



Conversion table for calculating the PHE-s score (Graffigna & Barello, 2016)

Descriptive Statistics for Engagement at Pre-test and Post-test

Variable	Mean	Median	Standard Deviation
Pre-test Engagement	2.56	3.00	0.97
Post-test Engagement	3.06	3.00	0.89

Results

Results of Wilcoxon Signed-Rank Test

Rank	*N*	Mean Rank	Sum of Ranks
Negative Ranks	3	9.50	28.50
Positive Ranks	18	11.25	202.50
Ties	15		

- Wilcoxon Signed-Rank test conducted in data analysis
  - Nonparametric test are appropriate to ordinal data and data that are not normally distributed

Result: Z= 3.27, p = .001 and Positive Mean Rank = 11.25 v. 9.50

Results are statistically significant. There is a significant increase in patient engagement from pre-test to post-test as evidenced by the difference in mean ranks.

Negative Ranks n = 3 (8.3%) Post engagement scores < pre-test engagement scores

Positive Ranks n = 18 (50%) Post engagement scores > pre-test engagement scores

Ties n = 15 (41.7%) Post engagement scored same as pre engagement scores

Results

- Levels of statistical significance represented by Z = -3.27
- P Value = .001
  The stated alpha level of .05 is surpassed and the possibility of Type 1 or Type II errors is significantly diminished The possibility of the stated result occurring randomly or by chance is 1/1000 times in different samples of the population.

Discussion

Thirty-six participants experienced a new approach to care delivery, a newly implemented nurse navigation program. Pre and post implementation measurements pf patient engagement were conducted with a time limit of 1) end of a navigation episode, or 2) a period of six weeks. Engagement was measured as one of four levels based on use of the Patient Health Engagement Scale, they are: blackout, arousal, adhesion, and eudaimonic project.

Based on data analysis using the Wilcoxon Signed-Rank test, it is found that positive ranks are greater than negative ranks (18 vs. 3), this is indicative of significantly increased levels of engagement. As well, test of significance statistics result in Z = -3.27 and p = .001. Statistically, these are significant findings that allows the conclusion that the NNP statistically increased levels of patient engagement in this project sample. In sum, nurse navigation definitively increased patient engagement in this project's patient population.

Project Limitations

The DPI project has limitations that should be considered when applying or duplicating the findings:

- Convenience, non randomized sample
- Sample size
- Unique population and project location
- Project confined to three (3) care locations
- Geographic location

Recommendations for Future Projects and Practice

There are recommendations in three domains: 1) theoretical constructs, 2) public policy, and 3) practice changes.

1. Study the concepts of navigation and engagement as one construct,
2. Use patient engagement scores as an outcome measure across systems
3. Study engagement as a factor of patient care outcomes,
4. Advocate the proliferation of patient engagement in varied care settings and patient populations as done in oncology care,
5. Use measures of patient engagement in the planning of patient care and design of clinical pathways, and
6. Replicate this project with different populations and additional variables.

References

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Graffigna, G., Barello, S., Bonanomi, A., & Lozza, E. (2015). Measuring patient engagement: Development and psychometric properties of the Patient Health Engagement (PHE) Scale. *Frontiers in Psychology, 6*(257). Retrieved from http://journal.frontiersin.org/article/10.3389/fpsyg.2015.00274/full

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