

Residents’ Knowledge, Attitudes, Beliefs, and Behavior Intentions For Quality Improvement Curriculum: The Results of A Pilot Evaluation

Ryan Knueppel, M.D. Chi-Mei Liu, Ph.D. Anya Lucero, D.O. Trey Oxford, M.D. Micah Duchesne, M.H.S.A. Danny Sam, M.D.

Kaiser Permanente Northern California Santa Clara Medical Center



Background:

Kaiser Permanente (KP), one of the largest not-for-profit health plans in the U.S., has a comprehensive performance improvement program that addresses quality, safety, and efficiency across its facilities. KP Santa Clara initiated a monthly QI curriculum for different levels of residents beginning in 2014. This monthly QI curriculum offers both lectures and resident-centered group QI activities, aiming to introduce KP’s unique QI tools by professional KP QI consultants.

Problem Identification:

There is growing emphasis on promoting resident involvement in Quality Improvement (QI) within the Accreditation Council for Graduate Medical Education. Many residency programs have already created numerous innovative approaches to incorporate QI education during residency training, aiming to increase residents’ awareness toward patient quality and safety issues. However, it is difficult to increase the engagement in QI training given resident time constraints during work hours. We used the Theory of Planned Behavior (TPB) to model the relationship between norms, attitudes, and perceived behavioral control on resident intention to participate in QI curriculum.

Description:

The KP Santa Clara residency program wanted to understand the residents’ perspective toward the QI curriculum using a theory-based approach. We surveyed all levels of residents who are currently enrolled in KPSC Internal Medicine Residency Program in May 2017. The survey was developed to assess residents’ knowledge of and attitudes towards the monthly QI curriculum. The survey consisted of three parts: (1) demographic information (age, gender, race/ ethnicity), (2) knowledge of QI (10 True/False questions), and (3) TPB constructs, i.e., attitudes, perceived behavior control, and norms towards monthly QI curriculum. The TPB construct questions consisted of 10 items ,each rated on a 7-point-Likert-scale, ranging from “do not agree at all” to “completely agree”. The objective was to test the constructs of attitude, subjective norm, and perceived behavioral control that predict residents’ intent to participate in QI curriculum. All analyses were conducted using STATA 14.0. KP Northern California IRB exemption was granted for this study.

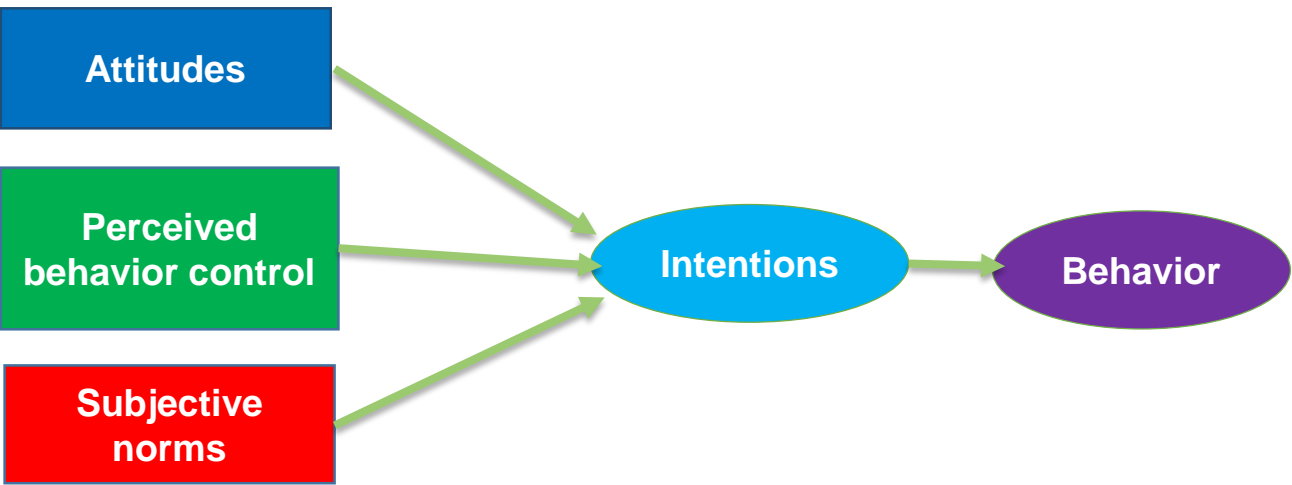


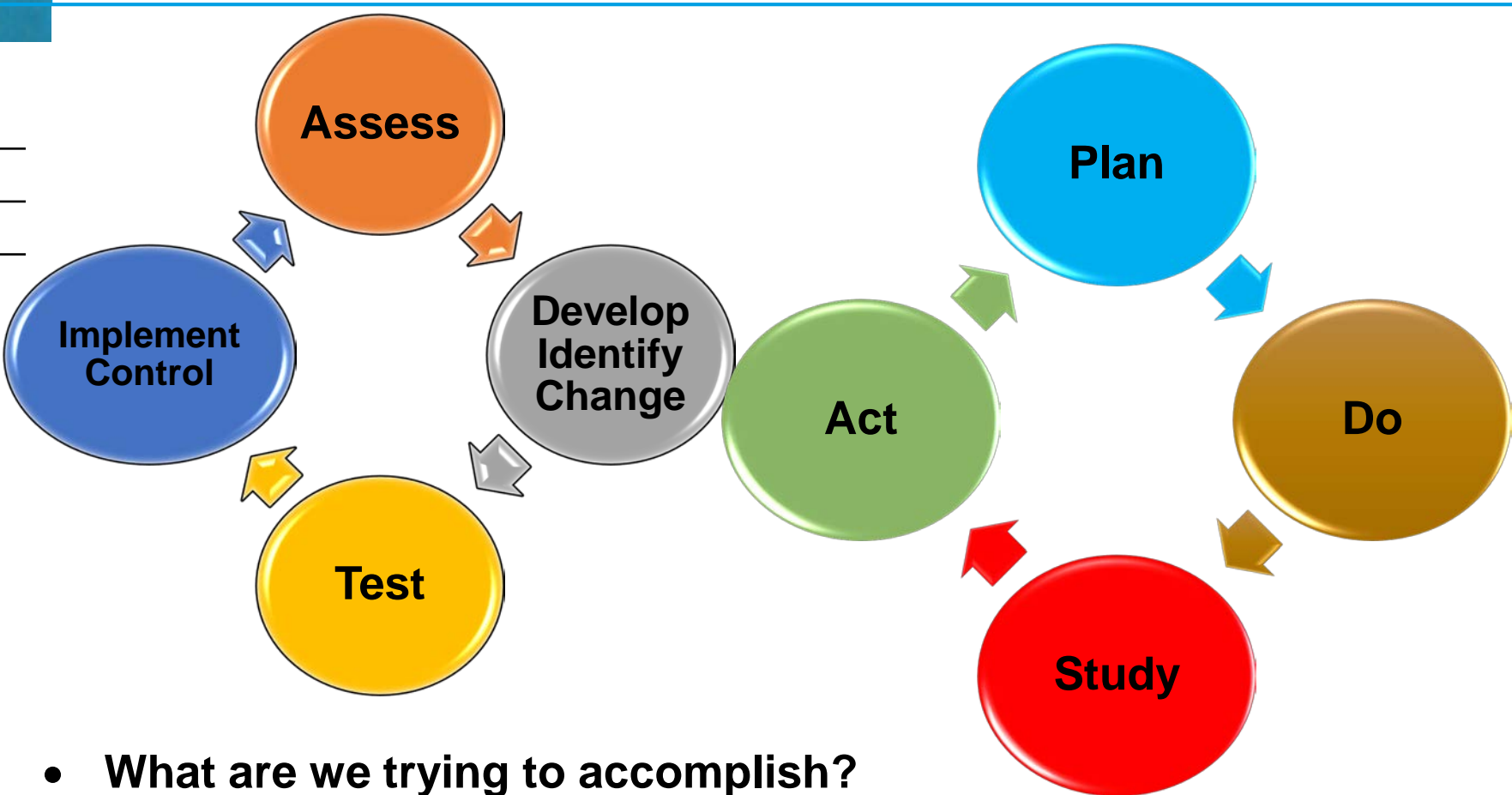
Figure 1. Conceptual Model of the Theory of Planned Behavior

Table 1. Characteristics

	Total (N=39)
Mean age in year (SD)	29.62 (2.38)
Gender	
Female	26 (66.67%)
Male	13 (33.33%)
Post Graduate Year Level	
PGY 1	14 (35.90%)
PGY 2	13 (33.33%)
PGY 3	12 (30.77%)
Ethnicity	
Asian	24 (61.54%)
Caucasian	11 (28.21%)
Others (African American, Hispanic, Native Hawaiian)	4 (10.25%)
QI Knowledge Correction	
60% correct	6 (15.79%)
70% correct	6 (15.79%)
80% correct	11 (28.95%)
90% correct	15 (39.47%)

Table 2. Wording, respective factor and mean score of the TPB items

Item Number	Item Description	Mean (SD)
Q31	For me, attending “the monthly QI lecture” is enjoyable	3.46 (1.59)
Q32	For me, attending “the monthly QI lecture” and conducting PI projects is burdensome	4.95 (1.56)
Q33	For me, attending “the monthly QI lecture” is important	3.95 (1.41)
Q34	How confident are you to apply what you have learned from QI lectures during the residency training program to conduct PI projects in your future career.	4.15 (1.48)
Q35	For me, becoming a physician with a comprehensive QI knowledge will be easy	4.15 (1.09)
Q36	How much control do you believe you have to conduct PI projects after the residency	4.13 (1.34)
Q37	My peer group thinks that it is important that I become “a physician with KP QI training”	3.87 (1.70)
Q38	My attending think it is important that I become “a physician with KP QI training”	4.56 (1.48)
Q39	It is my intention to gain knowledge of QI so that I can be more aware of patient quality and safety issues in the future.	5.28 (1.30)
Q310	I am working towards becoming a physician with a comprehensive QI training.	4.84 (1.30)



- What are we trying to accomplish?
- How will we know that change is an improvement?
- What change can we make that will result in improvement?

Figure 2. KP Rapid Improvement Model

Results:

A total of 39 residents completed the survey (90.7% response rate). Most of the questions in the survey fit well into the TPB model. The developed questionnaires could explain 30.5 % of the residents’ intention variance.

Limitations:

- Small sample size
- Response bias
- Survey validation
- No quantifiable data on the impact of having quality improvement training

Discussion:

Attitude and subjective norms have stronger association with residents’ intention toward QI training. The results may be useful in improving the design of QI curriculum and engaging residents in quality improvement initiatives in the future.