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Cover Page Footnote

The authors thank the Patient Access Service/Registrar team leaders and employees for their enthusiasm and participation as well as the Office of Patient & Customer Experience, Patient Experience leaders, Labor Management, Human Resources and Optum 360 for their unwavering support and dedication to this study. The authors also gratefully acknowledge the expert opinion and involvement of Lisa Rosen and Nina Kohn and invaluable support provided by Chief Experience Officer, Sven Gierlinger.

Effectiveness of the communication model, C.O.N.N.E.C.T., on patient experience and employee engagement: A prospective study

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Abstract

Northwell Health is a large integrated healthcare organization comprised of 66,000+ employees, 23 hospitals and over 650 medical practice locations located geographically across New York State. In an effort to align and structure interactions between patients, families and healthcare professionals, Northwell Health created a communication model, C.O.N.N.E.C.T. This unique, humanistic model is an acronym that stands for: Contact, Opening Greeting, Name/Title, Needs, Explanation, Closing and Thank. This prospective 3-part study explores the impact of the C.O.N.N.E.C.T. model on professional education, engagement and patient experience. A holistic approach was utilized including a pre and post e-learning module assessment, direct observation behavioral competency process and patient experience surveys. Study participants were Patient Access Services/Registrar professionals across three Northwell Health Emergency Departments. The educational intervention produced statistically significant outcomes in overall learned knowledge, applied knowledge utilizing direct behavioral competency and patient experience. There were variations per hospital for patient experience outcomes. Healthcare necessitates an interdisciplinary team-approach and thus, non-clinical professionals also require educational interventions focused on effective patient and family centered communication. Every role, every person and every moment matters.

Keywords

Communication model, patient experience, engagement, non-clinical, behavioral competency, ED CAHPS, registrar

Introduction

In an ever changing healthcare landscape, patient experience remains positively correlated with clinical effectiveness and patient safety¹. Effective communication is a core element in the delivery of culturally competent and patient and family centered care². Communication models create frameworks that facilitate skill integration and enable a shared mental model³⁻⁴. Numerous research studies have examined the impact of physician and nurse communication on patient experience⁵⁻⁸. However, limited studies have studied the impact of communication education on non-clinical personnel engagement and patient experience.

Northwell Health is a large integrated healthcare organization comprised of 66,000+ employees, 23 hospitals and over 650 medical practice locations located geographically across New York State. In an effort to align and structure interactions between patients, families and healthcare professionals, Northwell Health created a communication model, C.O.N.N.E.C.T. This unique, humanistic model is an acronym that stands for: Contact, Opening Greeting, Name/Title, Needs, Explanation, Closing and Thank (see Figure 1). Although other communication models exist such as the Studer Group's

AIDET®⁹, we chose to create our own to best align with our organization's mission, vision and core values. Each element of the C.O.N.N.E.C.T. model is specifically developed intending to fuel connections, build rapport, express empathy and enhance relationships between colleagues, patients and family members and is utilized throughout the organization.

This prospective 3-part study examines the impact of having a standardized communication model, C.O.N.N.E.C.T., on employee knowledge, application and patient experience. Emergency Department Patient Access Service/Registrar personnel ("non-clinical professional") from three acute care Northwell Health sites participated. The three primary study objectives include, 1) Compare

Figure 1. Northwell Health Communication Model, C.O.N.N.E.C.T.

C = Contact: Smile, Eye Contact, Posture, Nonverbal empathy cues
O = Opening Greeting: "Good Morning/Afternoon/Evening"
N = Name: Introduce yourself and explain your title/role
N = Needs: Assess and address expressed and unexpressed needs
E = Explanation: Explain and set expectations
C = Closing Statement: Ask if there is anything else you can do
T = Thank: Thank the patient/customer

non-clinical professional knowledge of the C.O.N.N.E.C.T. model before and after viewing an e-learning module, 2) Measure employee engagement of the C.O.N.N.E.C.T. model by assessing practice utilization, 3) Compare patient experience pre and post implementation of the e-learning module. Our hypothesis was that non-clinical professionals who successfully complete the e-learning module will demonstrate improvement in learned and applied knowledge and patient experience scores will increase.

Methods

Objective 1: E-learning has many benefits including learner autonomy, ease of access, flexibility, cost savings and integration of multimedia factors¹⁰. This pragmatic approach also affords learners the ability to obtain new information at their individually preferred time, location and pace. For this study, we chose an e-learning platform to ensure consistency of presented education materials. The e-learning module consisted of visually presented curriculum, a video vignette and voice over content highlighting key information regarding the importance of effective communication and the utilization of the C.O.N.N.E.C.T. model in Patient Access Services/Registrar care delivery processes. All Full-time, part-time and per diem non-clinical professionals from the three selected Northwell Health Emergency Departments were considered eligible study participants.

Eligible non-clinical professionals (n=113) were enrolled in the e-learning module via the organization's established Learning Management System. Prior to launching the e-learning module, they completed a ten question multiple choice questionnaire, measuring baseline (pre-intervention) knowledge. Correct answers were not revealed to the participants. After voluntarily completing the questionnaire, the participants then received the e-learning module which is self-paced, systematically presents the C.O.N.N.E.C.T. model and provides role-specific care delivery examples. Immediately following the conclusion of the e-learning module, participants then completed the same ten questions multiple choice questionnaire, to measure immediate knowledge learned (post-intervention). Pre and post questionnaire performance was de-identified and stored within the Learning Management System. Only the primary investigator and study coordinator had access to aggregate data. The non-clinical professionals and their leaders did not receive the pre or post questionnaire results.

Objective 2: Outlined in *Crossing the Quality Chasm*, a major focus of patient-centeredness requires respect, coordination of care, information and communication, physical comfort, emotional support and involvement of family and friends¹¹. We believed that while an e-learning module provides fundamental information, direct

observation may be beneficial to assess if the non-clinical professionals are able to translate communication skills knowledge into action. The Northwell Health Office of Patient & Customer Experience created the C.O.N.N.E.C.T. model behavioral competency checklist (see Table 1). Consisting of nine objective behavioral criteria, each checklist item is measured by a binary scale of 'meet' and 'does not meet.'

Direct observation enables the assessment of various skillsets, critical thinking and provides insight on how the non-clinical professionals "frame options from within open, dynamic systems"¹². To measure retained and applied C.O.N.N.E.C.T. model knowledge, participants were observed by their respective leader during an actual workday patient/family encounter. Leaders received an educational session to review the competency checklist and review constructive coaching. Site patient experience leaders serve in a mentoring and coaching role to support the leader in their competency efforts. The patient experience leader competenced the leaders prior to them observing their team. The non-clinical professionals, patients and family members were verbally made aware by the leader that an observation was being performed for competency purposes. This process mirrored that of other required skill-based competencies. Leaders observed if the non-clinical professional(s) successfully met the behavioral criteria for each of the core behavioral competency items. Each observation varied due to the complex nature of healthcare – no two patient encounters are alike –and so, the competency tool allowed flexibility of an objective assessment within a highly intricate environment.

According to the Oxford Dictionary, 'competent' is defined as, "having the necessary ability, knowledge, or skill to do something successfully."¹³ For this checklist tool, 'competent' is defined as meeting at least 7 out of the 9 checklist items. If a participant was deemed 'not competent', he/she received constructive feedback immediately following the observation for professional development purposes. De-identified completed pen-and-paper competency checklists were submitted and collated by the study investigators, and the leader placed it in their professional education file alongside mandated skill-based competencies.

Objective 3: In 2012, the Center for Medicare and Medicaid (CMS) began developing Emergency Department (ED) Patient Experience of Care surveys to obtain feedback from patients who receive care within an emergency department¹⁴. Utilizing the Consumer Assessment of Healthcare Providers and Systems (CAHPS) core principles, Northwell Health began utilizing the ED CAHPS survey, administered by a third-party vendor, effective January 1, 2017. For this study, we selected the ED CAHPS question "Courtesy of the person who took your personal/insurance information" to measure patient experience

outcomes. Since the non-clinical professionals are solely responsible for processing ED admissions, personal and insurance information, we felt this question best captured the impact of communication skills education on patient experience.

For the selected ED CAHPS survey question, patients answer utilizing the provided 5-point Likert scale: 1 = very poor, 2 = poor, 3 = fair, 4 = good, 5 = very good. Patient experience survey responses with patients discharged January 1, 2017 through April 30, 2017 served as pre-implementation (e-learning module) data. Patient experience survey responses from patients discharged during the July 1, 2017 through October 31, 2017 time period served as the patient experience post-implementation data. ED CAHPS surveys are sent to patients by the third party vendor via email and traditional mail with pre-paid postage envelope, a random mixed approach. Patients voluntarily provide their responses and aggregate data is made available to Northwell Health.

Results

Objective 1: Our first objective was to compare the non-clinical professional's knowledge of the communication model, C.O.N.N.E.C.T., before and after viewing the e-learning module. For this analysis, pre and post-questionnaire scores were compared using the paired t-test. A total of 113 participants across three Northwell sites (A, B, C) completed both questionnaires; see Table 2 for site frequencies. The mean pre-score was 86.55 ± 10.24 (95% CI: 84.64, 88.46). The mean post score was 89.03 ± 9.82 (95% CI: 87.20, 90.86). The mean difference in post and pre-scores (post – pre) was 2.48 ± 8.61 (95% CI: 0.87, 4.08). There was a significant increase in the e-learning module survey scores from pre to post ($p = 0.0028$). Analysis was conducted in SAS version 9.4 (SAS Institute, Inc., Cary, NC).

Objective 2: The second objective focuses on measuring employee engagement - application of the C.O.N.N.E.C.T. model during actual patient/family encounters. We use descriptive statistics to describe competency performance captured during direct observations. *Competent* was defined as meeting at least 7 out of the 9 checklist items. Of the non-clinical professionals that were observed ($n=103$), all were deemed “competent” in integrating the C.O.N.N.E.C.T. model into care delivery. Ten participants were not observed due to leave of absences and turnover during that particular time period. Table 3 outlines aggregate performance for each of the Behavioral Competency Checklist criteria.

Objective 3: The final objective aims at examining the impact of the educational intervention on patient experience. The primary outcome variable analyzed was the ED CAHPS question, “*Courtesy of the person who took*

your personal/insurance information.” For analysis purposes, the question's 5-point Likert scale was dichotomized into a response of 5 (“Top Box”) vs a response between 1 and 4. There was a total aggregate increase (post-pre) of 3.4 Top Box percentage points (Tables 4 de 5). Using logistic regression (Table 6), it was determined that there was significant interaction between Top Box by period and aggregate site ($p < 0.0179$). When odds ratios were calculated, aggregate sites showed significant difference (Odds Ratio: 1.66, 95% Confidence Interval 1.005, 1.353). However, when each site was analyzed separately, the only individual site with a significant difference was Site C (Odds Ratio: 1.55, 95% Confidence Interval: 1.154, 2.091). The other two sites had no significant difference in the post period vs. pre period. Odds ratios per site and aggregate are shown in Table 8. All analysis was conducted in SAS version 9.4 (SAS Institute, Inc., Cary, NC).

Discussion

Effective communication is essential to improving employee engagement and patient experience. Every role impacts experience and therefore, healthcare leaders must equip their teams with the tools and resources needed to be successful. This study highlights e-learning as an effective methodology to educate non-clinical healthcare personnel on communication skills, in particular, the communication model, C.O.N.N.E.C.T. This model, unlike a script, provides consistency and guidelines while at the same time, promoting and embracing individualization. Investing in Patient Access Services/Registrar professionals' communication education and development is critical to an organization's success because they are often the first and lasting impressions for patients and families. They have the ability to positively or negatively impact the overall experience.

The behavioral competency process provided an opportunity for staff to practice embedding newly-learned skills into their every day care delivery. Through this study, we also discovered two positive unintended consequences. The first was leadership being able to see first-hand the compassionate and impactful work their teams perform daily and it was eye-opening. It provided a forum for leaders to connect, engage in open dialogue, mentor, recognize and mutually problem-solve with their staff in real-time. The second being the staff was pleased to see the proactive and visible presence of their leaders through this process. Due to the success of this study, Northwell Health has expanded the competency process to all patient-facing roles and disciplines within hospitals, medical practice locations and ambulatory services. Organizations are encouraged to consider competency as a sustainment and accountability method because of the objective nature of the assessment and the interactive process design. Lastly, although not all sites had a significant increase in patient experience ED CAHPS

scores, by engaging this particular employee population, the non-clinical professionals were subsequently educated, mentored and self-developed in communication skills and patient and family centeredness. Having an engaged and empowered workforce lays an essential foundation for which cultural transformation can build upon with an ultimate goal of enhancing patient and family experiences throughout the healthcare continuum.

Ethics Approval

Study protocol was reviewed by the Northwell Health Institutional Review Board and met the criteria outlined in 45 CFR 46.110 and 21 CFR 56.110 for Expedited Review. This study was issued a waiver of informed consent since it was determined the intervention (e-learning module) imposed are no risk to participants. The module provides an environment that is self-lead, self-paced and enables professional development. The nature of the behavioral competency aligned with other mandatory job-related, skills-based competencies currently being performed throughout the organization. The non-clinical professionals are familiar with being directly observed for competency, coaching and mentoring purposes. Lastly, ED CAHPS surveys are already being provided to patients following their Emergency Department visit so this was neither a new process nor intervention. Patient participation in completing and submitting the survey is voluntary and reported to Northwell Health as aggregate data via the third-party vendor. Patient experience survey results are routinely analyzed, tracked and trended for performance improvement.

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Appendix

Table 1. The Northwell Health C.O.N.N.E.C.T. Model Behavioral Competency Checklist©
Scale: “Meet” vs. “Does Not Meet”

Behavioral Criteria
1. Employee explains that the Culture of C.A.R.E. is Northwell Health’s framework for upholding the organization’s mission, values and behavioral expectations. The acronym C.A.R.E. stands for <u>C</u> onnect ^e dness, <u>A</u> wareness, <u>R</u> espect and <u>E</u> mpathy. Each element supports exceptional patient/customer experience.
2. Employee verbalizes the importance of utilizing the communication model, C.O.N.N.E.C.T., during patient/customer interactions and the components of the C.O.N.N.E.C.T. acronym which stands for: C = Contact O = Opening Greeting N = Name/Title N= Needs E= Explanation C= Close T= Thank
3. C = Contact Employee demonstrates: <ul style="list-style-type: none"> - Smiling, welcoming and greeting - Appropriate eye contact (ie: sits at patient/customer’s eye level; avoids standing over patient/customer) - Professional verbal and non-verbal communication - Wearing identification badge above the waist with photo forward-facing
4. O = Opening Greeting Employee consistently: <ul style="list-style-type: none"> - Knocks on door prior to entering patient room (if patient care setting) - Verbalizes “Good Morning” or “Good Evening” in a kind, courteous and caring manner - Include the patient/customer’s preferred name, if known
5. N = Name/Title Employee consistently: <ul style="list-style-type: none"> - Introduces self by name and title/role/department (as appropriate) - Explains role and/or responsibilities
6. N = Needs Employee demonstrates: <ul style="list-style-type: none"> - Ability to assess and timely address the expressed and unexpressed needs of the patient/customer - Prompt response to a patient’s call light or a customer’s needs (if applicable) - Understanding of Northwell Health Service Recovery model, L.A.S.T., and takes ownership responding and resolving concerns or complaints - Ability to explain how to escalate patient/customer concerns or complaints (if applicable) - Cultural diversity, awareness and sensitivity of individual preferences upheld (if applicable)
7. E = Explanation Employee explains: <ul style="list-style-type: none"> - Expectation of his/her role and time together with the patient/customer - Asking permission prior to making physical contact with a patient or the personal space of a team member/customer - How to keep the patient/customer informed of wait times or delays - Importance of frequently checking-in, providing updates and making time for patient/customer’s questions - Using open-ended questions to assess for comprehension of provided explanation
8. C = Close Employee verbalizes: <ul style="list-style-type: none"> - “Is there anything else I can do for you?” prior to concluding the patient/customer interaction
9. T = Thank Employee consistently: <ul style="list-style-type: none"> - Thanks the patient/customer at the end of the interaction - Verbalizes, “Thank you,” and/or “It was a pleasure meeting you”

Table 2. Objective 1 – Frequency by Site

Site	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Site A	40	35.40	40	35.40
Site B	31	27.43	71	62.83
Site C	42	37.17	113	100

Table 3. Objective 2 - Behavioral Competency Performance

C.O.N.N.E.C.T. Competency Checklist Item	Meet % (n)
Explains Culture of CARE	100% (102)*
Verbalize Importance of the CONNECT model	100% (103)
Contact	100% (103)
Opening Greeting	100% (103)
Name/Title	100% (103)
Needs	100% (103)
Explanation	100% (103)
Close	100% (103)
Thank	100% (103)

Table 4. Objective 3 – Top Box Percentages by Period

Period	Top Box Yes	Top Box No	Total
Frequency Row Percentage			
Pre	1031 65.2	550 34.79	1581
Post	1071 68.6	490 31.39	1561
Total Frequency	2,102	1,040	3,142

Table 5. Objective 3 - Top Box Percentages, by Period, by Site
Source: Press Ganey database

Site	Pre Top Box %	Post Top Box %
Site A	60.6	63.6
Site B	76.6	73.2
Site C	62.1	71.8
Total Aggregate	65.2	68.6

Table 6. Objective 3 – Logistic Regression Procedure

Number of Observations Read		4	Response Profile			
Number of Observations Used		4	Ordered Value (probability modeled is Top Box = 1)	Top Box	Total Frequency	Total Weight
Sum of Weights Read		3142	1	0	2	1040
Sum of Weights Used		3142	2	1	2	2101
Model Fit Statistics			Testing Global Null Hypothesis: BETA=0			
Criterion	Intercept Only	Intercept and Covariates	Test	Chi-Square	DF	Pr > ChiSq
AIC	3991.612	3948.523	Likelihood Ratio	53.0890	5	<.0001
SC	3992.097	3951.432	Score	52.0903	5	<.0001
-2 Log L	3989.612	3936.523	Wald	51.3784	5	<.0001
Joint Tests						
Effect	DF	Wald Chi-Square	Pr > ChiSq			
Site	2	32.4189	<.0001			
Period	1	1.3827	0.2396			
Site*Period	2	8.0493	0.0179			

Table 7. Objective 3 – Odds Ratios per site and aggregate (all sites)

Odds Ratio Estimates and Wald Confidence Intervals			
Odds Ratio	Estimate	95% Confidence Limits	
Period Post vs Pre at Site=Site A	1.135	0.919	1.401
Period Post vs Pre at Site=Site B	0.835	0.612	1.138
Period Post vs Pre at Site=Site C	1.554	1.154	2.091
Aggregate (All Sites)	1.166	1.005	1.353

Table 8. Odds Ratios with 95% Wald Confidence Limits

