

Applying the CPD-Reaction Framework to Assess Customer Care Essentials Training: A Prospective Longitudinal Analysis of Behavioral Determinants Among Healthcare Professionals

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Abstract

Background

Effective customer care services are essential for maximizing person-centered care (PCC), satisfaction, and fostering organizational trust in clinical environments. This study assessed the impact of a tailored Customer Care Essentials (CCE) training program at a tertiary hospital in Rwanda on the study population's three essential communication behaviors: active listening, clear communication, and professional responsiveness.

Methodology

We used a prospective, longitudinal pre-post design to track outcomes of 31 department managers ($N = 31$) following the training. Data were collected at 4 points: baseline (pre-test), immediate post-test, 3-month follow-up, and 6-month follow-up. The 12-item CPD reaction questionnaire, which measured 5 behavioral Psychometric Domains (Intention, Social Influence, Beliefs about Capabilities, Moral Norms, and Beliefs about Consequences), was used. Longitudinal differences in median scores and tracking trajectory parameters were calculated using Friedman's test.

Results

The median age of the managers was 42, with 93.5% holding a university degree. The majority (54.8%) of the participants were nurses, with a median of 16.0 years of experience. Significant improvements were observed in active listening behavior, for Moral Norms (Mdn Diff = 0.50, $p < .05$) and Social Influence Psychometric Domains (Mdn Diff = 1.00, $p < .01$), especially amongst nurses. For clear communication behavior, only social influence construct showed significant improvement at the 6-month threshold (Mdn Diff = 0.70, $p < .01$). Professional responsiveness behavior showed improvements in Beliefs about Capabilities and Beliefs about Consequences Psychometric Domains within the first 3 months (Mdn Diff = 1.0, $p < .05$), while Social Influence Psychometric Domains demonstrated significant gains at 6 months (Mdn Diff = 1.0, $p < .05$).

Conclusion

Experiential customer care training fosters lasting behavioral improvements among nurses, with social influence sustaining progress across all target areas. This highlights the training's effectiveness in reshaping peer norms and workplace culture to advance person-centered care(PCC).

Background

The interaction between health care professionals and their customers is of growing interest in health care¹. In many studies, patient satisfaction, which is a product of good customer care service, is an indicator of the quality of care¹⁻³. Hence, many healthcare providers are finding interest in increasing the value for patients in pursuit of a sustainable system¹ by putting in mechanisms to ensure person-centered care (PCC). PCC is care that is attentive and responsive to individual patient values, needs, and preferences⁴. When healthcare workers actively listen, use clear language, and respond respectfully to patient concerns, they build trust, reduce anxiety, and improve adherence to care plans. In contrast, the absence of these behaviors can lead to mistrust, increased anxiety, and poor compliance⁵. Hence, strengthening customer care services is important for improving patient satisfaction, care outcomes, and the care facility's reputation with the public.

In sub-Saharan Africa (SSA), evidence suggests that elements that promote customer satisfaction in the care dimension are inconsistently delivered. Studies consistently show that patient–provider and nurse–patient communication across the region is undermined by rushed, impersonal encounters, dismissive language, and systemic constraints such as high patient volumes, time pressure, cultural and language barriers, and limited training in interpersonal skills, together restricting the attentive, two-way communication essential to patient-centered care^{6,7}. In Rwanda, for example, evidence from a national assessment of person-centered antenatal care found that a substantial proportion of women left consultations feeling confused or disrespected, calling for recommendations on provider training as a lever to shift institutional culture toward more person-centered care⁸. These findings support a continental call to build a workforce equipped to practice PCC as routine, rather than aspirational, practice^{6,8}

Within Rwanda, structured, repeated, and mentorship-based training models have shown real promise for building healthcare worker competencies⁹. These programs use soft-skill approaches and longitudinal tracking to measure gains from interventions over time. Customer care and communication-focused training in African hospital settings have, by contrast, been evaluated far less rigorously, typically relying on single post-training satisfaction scores rather than theory-based, multi-timepoint behavioral tracking. Nevertheless, effective customer care services in a hospital setting are crucial to ensuring patient satisfaction and fostering trust in the facility and its personnel. Essential behaviors central to good customer care and quality services include good communication and empathy. Studies have shown that educational interventions aimed at improving customer care behaviors among healthcare workers can enhance service delivery and improve healthcare outcomes⁶. Although customer care and communication are important, few studies in Rwanda or similar settings have used a theory-based longitudinal tool to assess behavioral determinants after training - this could be highlighted more. It was against this backdrop that a tertiary referral hospital in Rwanda implemented a tailored Customer Care Essentials training program for its department managers and staff, targeting three core communication behaviors—active listening, clear communication, and professional responsiveness. This study aims to assess the outcomes of the training developed by the Centre for Nursing and Midwifery at the University of Global Health Equity on staff's capacity to provide customer care services. This training used Kolb's Learning Cycle to help participants reflect on real patient interactions and improve customer care services at the facility.

The evaluation of Continuing Professional Development (CPD)programs to improve core behaviors requires a rigorous multi-point measurement approach¹⁰ The CPD Reaction Questionnaire is an instrument used to measure behavior change, aiming to capture both initial reactions, knowledge transfer, and sustained behavioral change post-training in clinical settings¹¹. The Instrument was developed and validated by a consortium in Quebec, Canada, to assess behavioral intention, a strong predictor of actual practice change among health professionals¹² The tool has been used to measure various behaviors in the healthcare setting, demonstrating construct validity. In one study in Burkina Faso, the instrument was found to be reliable in measuring clinical practice of a person-centered approach to improve maternal health, confirming its appropriateness for use in Africa¹³ Generally, the validity of the tool has been ensured through local piloting to confirm the appropriateness of the questions to measure behaviors. The 12-item CPD-REACTION questionnaire demonstrates well-documented psychometric properties, with Cronbach's alpha values typically ranging from 0.77 to 0.85, indicating strong internal consistency^{12,11}

This study aims to provide evidence on the use of tailored customer care training curricula that incorporate experiential learning to modify the psychometric determinants of three priority customer care behaviors: actively listening, communicating clearly, and responding professionally to patient concerns. Adopting a valid instrument (the CPD reaction questionnaire), along with repeated follow-up, will help the health facility adopt such an approach to improve customer care services, strengthen the integration of customer care practices in the facility, and inform policy actors like the Ministry of Health about the need to improve customer care services to enhance patient-centered service culture across Rwanda's health sector.

Objectives

The study was based on the following objectives

Objective 1: To assess the immediate, intermediate, and long-term effects of the Customer Care Essentials training program on five psychometric domains

Objective 2: To examine differences in baseline and post-intervention trajectories between nurses and other health professionals, evaluating the influence of professional role on behavioral adaptation over six months.

Objective 3: To determine which customer care communication behaviors and associated psychometric constructs showed the strongest retention or greatest decay across professional groups during the study period

Methodology

Study Design and Setting

A prospective, longitudinal, pre-post intervention design was used to measure the effect of a tailored Customer Care Essentials training program on the behaviors and behavioral determinants of the healthcare managers. We assessed and tracked respondents' behavioral outcomes and cognitive Psychometric Domains across four time points spanning a six-month period: baseline (Pre-test), immediately Post-test, 3-month Post-test, and 6-month Post-test.

Participants and Selection Criteria

The study participants were 31 department managers whose professional roles directly influence clinical, administrative, and operational customer care standards within the hospital. To ensure evaluation rigor in the analysis, these participants were divided into two main groups: Nurses and Other health staff. Given the small sample size, separating participants into Nurses and Other health staff helped prevent nurse-dominant perspectives from overshadowing others, enabling clearer comparisons and more balanced interpretation of training effects.

Customer Care Essential Training Intervention Content and Delivery

A customer care essential training program tailored to the facility's operational environment was administered to the recruited participants. The curriculum focused on translating patient-centered care theory into standardized,

actionable everyday workflows. The training was anchored around three core modules matching the hospital's priority communication competencies:

1. Active Listening and Empathy: Engaging with patients, validating their emotional states, and demonstrating empathy during intense clinical or operational interactions.
2. Clear Communication: Communicating clearly, eliminating medical jargon, using the language that patients and families can easily understand, and maintaining an unwavering tone of professional respect.
3. Professional Responsiveness: Responding promptly and constructively to patient or family concerns, handling complaints efficiently, and de-escalating interpersonal friction in high-stress care environments.

The training was a three-day(November 12–14, 2025) 20 CPD point training delivered to the staff of the facility by the Center for Nursing and Midwifery of the University of Global Health Equity. All facilitators were lecturers at the university with experience in health professional education. The training intervention applied the following Kolb's experiential learning;

1. Concrete experience, which addressed the interactive role-playing scenarios that simulated real-world patient encounters, allowing participants to directly engage in the three targeted communication behaviors.
2. Reflective observation through small-group discussions and case study debriefs, where participants examined their experiences and those of peers.
3. Abstract conceptualization for interactive didactic lectures, where theoretical principles of person-centered care were presented and linked back to the practical experiences.
4. Active experimentation embedded through repeated practice in role-playing sessions, enabling participants to apply newly conceptualized approaches in a safe environment before transferring them to clinical practice.

The methodology used a mix of interactive and applied learning strategies:

- Simulations and role plays to enhance empathy and interpersonal communication skills
- Case studies focused on patient complaints and conflict resolution scenarios
- Reflective journaling and feedback sessions to support self-assessment and personal growth
- Work-based projects designed to apply theoretical concepts to real-world departmental challenges

This blended approach aimed to foster practical competencies and critical thinking among participants in customer care within healthcare settings.

Measurement Instrument

The validated 12-item Continuing Professional Development (CPD)-Reaction questionnaire was used to collect data^{15,16}. The CPD-reaction questionnaire is a theory-based psychometric tool rooted in the Theory of Planned Behavior and the Theoretical Domains Framework (TDF)¹⁵. Twelve items were replicated for the three behaviors (Active Listening, Clear Communication, and Responding Promptly). With the exception of Item 2, all items were assessed using a 7-point Likert scale. Item 2 utilized a 5-point categorical percentage scale. The internal consistency of the three communication behavior measures were assessed using Cronbach's alpha, yielding a coefficient of 0.8, indicating strong reliability across all items

Variables description and Construct composition

Participant sociodemographic data were collected, including age, years of experience, profession (classified into nurses and other health staff), highest educational attainment, and primary assignment. In addition, the five psychometric domains were assessed across three behavioral categories.

Items were reconstituted for analysis as described in a publication by Légaré et al., 2017¹⁶. Composite psychometric domains were calculated using the arithmetic mean of the mapped sub-items¹⁶. This created 5 psychometric domains on a continuous scale of 1.0 to 7.0. Domains included;

1. Intention capturing intended and planned behaviors
2. Social Influence capturing peer behavior, social pressure, and institutional expectations of behaviors
3. Belief about Capabilities, which measured self-efficacy and perceived behavioral control over the behaviors.
4. Moral Norms, which captured the personal ethical and values-based obligations
5. Belief about Consequences, which captured outcome expectancies and beliefs about benefits.

Ethical consideration

This study was conducted in accordance with the ethical principles of the Declaration of Helsinki¹ and all applicable institutional and national guidelines for research involving human participants. Institutional ethical clearance for this study was obtained from the University of Global Health Equity Institutional Review Board (IRB) (UGHE-IRB/2025/462). Formal informed consent was secured electronically from all eligible participants before data collection commenced. The digital consent interface required the participants to check a confirmation box to validate their voluntary agreement to participate. To protect participant autonomy, participation in the study was entirely voluntary, and participants had the right to withdraw from the evaluation at any milestone without penalty, prejudice to their employment status, or loss of future continuing professional development (CPD) opportunities. Identifiers were restricted to broad professional classifications (specifically nurses, administrative staff, and other support staff). The educational intervention and longitudinal evaluation protocols presented minimal risk to the participants, as they focused entirely on routine professional behaviors and quality improvement practices.

Data Analysis.

Data analysis was performed using R Studio. Sociodemographic characteristics of the participants were described using frequencies and percentages for categorical variables, and medians and interquartile ranges for continuous variables. To evaluate whether the customer care training program achieved statistical significance and sustained behavioral modifications from baseline, we used the nonparametric Paired Wilcoxon Signed-Rank tests. We compared changes in median behavioral scores using five specific pairwise comparisons operationalized to isolate three distinct evaluative dimensions:

1. **Immediate intervention effect.** Immediate pre-post comparisons to assess intervention effects on psychometric domains prior to any temporal decay.
2. **Long-Term Sustainability (Pre vs. Post 3-Months, and Pre vs. Post 6-Months).** These analyses evaluated whether behavioral adaptations persisted or regressed toward pre-intervention levels, with the 6-month

comparison serving as the primary endpoint.

3. **Post-Intervention Retention and Decay (Post Immediate vs. Post 3-Months, and Post Immediate vs. Post 6-Months).** This traced the trajectory of skill and construct retention, highlighting behavioral changes across the 6-month study.

Longitudinal changes between Nurses (n = 17) and Other health professionals (n = 14) across all five behavioral domains were assessed using Friedman's test, the nonparametric analog of repeated-measures ANOVA for related samples, and visualized by plotting median scores across four time points. These trajectories over the 6-month study duration were mapped using multi-panel line charts. Statistical significance was set at an alpha level of 0.05.

Results

Table 1
Sociodemographics characteristic of participants

Variable	Category	Summary
Age		42(36,69)
Profession		
	Nurse	17 (54.8%)
	Other health staff(Kitchen manager, Security, Customer care service, Laboratory etc)	14 (45.2%)
Years of experience		16.0 (3.0, 31.0)
Primary assignment		
	Administrative	7 (22.6%)
	Clinical	22 (71%)
	Other support staff(cook, security)	2 (6.5%)
Highest level of education		
	Other	2 (6.5%)
	University	29 (93.5%)

All 31 managers completed the pre-intervention survey. The median age was 42 years, with a range of 36 to 69 years. Up to 93.5% (29) had a university degree, with 54.8% (17) being nurses. The median years of professional practice were 16 (IQR3.0–31.0 years).

Table 2

.Comparisons *Pairwise comparison of longitudinal changes and Median Differences Across Behaviors and Psychometric Domains* (Table 1)

Behavior	Construct	Pre vs. Post1 Mdn Diff (W)	Pre vs. Post2 Mdn Diff (W)	Pre vs. Post3 Mdn Diff (W)	Post1 vs. Post2 Mdn Diff (W)	Post1 vs. Post3 Mdn Diff (W)
Behavior 1(active Listening)	Beliefs Capabilities	0.2 (85.0)	0.3 (23.0)	0.7 (20.0)	0.2 (98.0)	0.3 (8.0)
	Beliefs Consequences	0.0(68.0)	0.0(102.5)	0.0 (0.0)	0.0(79.5)	0.0 (0.0)
	Intention	0.0(98.0)	0.0 (77.5)	0.5(1.5)	0.0 (57.0)	0.0 (2.5)
	Moral Norms	0.0(101.5)	0.0(90.0)	0.5(0.0)*	0.0 (71.5)	0.0 (3.0)
	Social Influence	0.3(59.5)	0.3 (81.5)	1.0 (4.0)**	0.2 (115.5)	0.7(24.0)
Behavior 2	Beliefs Capabilities	0.0 (26.5)	0.0(124.5)	0.0 (34.5)	-0.2 (135.0)	0.0 (29.5)
	Beliefs Consequences	0.0 (8.0)	0.0 (10.5)	0.0 (1.5)	0.0 (12.0)	0.0 (2.5)
	Intention	0.0 (37.5)	0.0 (33.5)	0.0 (0.0)	0.0 (28.5)	0.0 (7.0)
	Moral Norms	0.0(6.0)	0.0 (70.0)	0.0 (2.5)	0.0 (74.0)	0.0 (4.0)
	Social Influence	0.0(105.0)	0.3 (78.5)	0.7 (0.0)**	0.0 (110.5)	0.3(4.0)*
Behavior 3	Beliefs Capabilities	0.8(0.0)**	1.0 (17.5)**	1.0 (10.5)*	0.0 (39.0)	0.00 (17.5)
	Beliefs Consequences	1.0 (0.0)*	1.0 (29.0)	1.0 (0.0)*	0.0 (29.0)	0.0 (5.0)
	Intention	0.5 (0.0)	0.5 (40.5)	0.5 (4.5)	0.0 (59.5)	0.0 (8.0)
	Moral Norms	0.3 (9.5)	0.0 (26.5)	0.5 (4.0)	0.0 (34.5)	0.0 (6.0)
	Social Influence	0.3(102.5)	0.3(126.5)	1.0 (0.0)*	0.0 (104.5)	0.7 (7.5)*

In Table 2 the training intervention showed that for Behavior 1 (Active Listening), there was a long-term sustainability effect rather than an immediate change. Significant upward shifts were noted in two psychometric domains: moral norms (Median difference = 0.5) and social influence (Median difference = 1.00) when comparing baseline and 6-month data (sustained change).

For Behavior 2 (Clear and Respectful Communication), significant changes were noted only in the psychometric domain of Social Influence. There was a statistical increase in score from the baseline to the comparison of baseline and 6-month (Median difference = 0.70). Behavior retention was seen in the sustained upward shift seen between immediate post-intervention and the final 6-month threshold (median difference = 0.3)

Behavior 3 (Professional Responsiveness) had the most significant changes across domains. A significant upward shift in beliefs about capabilities was noted when comparing behaviors at baseline, 3 months post-intervention, and 6 months (sustained changes) (median difference = 1). Upward shift in psychometric Social Influence behaviors was also noted for pre-intervention and 6 month post intervention and for immediate post intervention(median difference = 1) and at 6months (median diff = 0.7) (Behavior retention)

Nurses demonstrated broad, multi-domain, long-term improvements over the 6-month tracking period. For belief about Capabilities and Consequences, there was a continuous upward trajectory, with significant long-term gains in both Active Listening ($p = 0.032$) and Responding Promptly ($p = 0.01$). The same trajectory was seen in Intention and Moral Norms for Active Listening ($p = 0.034$) and Responding Promptly ($p = 0.009$). For social influence, significant changes across all behaviors: Active Listening ($p = 0.002$), Clear Communication ($p = 0.002$), and Responding Promptly ($p = 0.001$).

There was no significant difference in the trajectories for the Other Health Staff Subgroup.

Discussions

This study evaluated the longitudinal impact of the Customer Care Essentials training program on managers in a six-month period at a tertiary hospital in Rwanda. It assessed Immediate Intervention effects, Post-Intervention retention and decay, and long-term sustainability of 3 behaviors and 5 distinct psychometric domains over time. Findings revealed behavioral changes that evolved following the training, with professional roles emerging as a critical determinant of behavior sustainability and retention. It also revealed that social influence was the only psychometric domain showing consistent, reliable, and sustained change across all three behaviors. In contrast, professional responsiveness improved early, while active listening emerged only over the longer term

Multi-domain improvements, particularly in Social Influence, were observed across all three behaviors, with greater gains and greater retention of change, especially among nurses in the study population. This reveals that managers can strategically strengthen social influence by making desired practices visible, socially expected, and practically supported in the workplace^{18,19}. The finding that Social Influence emerged as the most sustained and cross-cutting domain supports the theoretical assertion that behavior change in professional contexts is fundamentally social^{16,20,21}. Evidence from implementation science shows that exposing healthcare workers to the values, expectations, and behaviors of credible peers or reference groups is a reliable lever for changing clinical and interpersonal practices. A recent systematic review found social-norms interventions to be effective, with credible-source and social-comparison strategies performing particularly well²². These findings contrast with one CPD-Reaction study conducted among Canadian physicians, in which social influence did not significantly predict post-course intention, whereas moral norms and beliefs about capabilities did²³. This is likely due to differences in occupational context: physicians at one-off conferences form loosely affiliated groups, whereas nurses and unit managers work daily in tightly bound teams where peer approval and institutional expectations are immediate and reinforced through routine ward interaction. Also, the study participants were managers who had an indirect influence on patient care, directly improving their satisfaction with services and the quality of care^{18,24}. The findings suggest that social influence drives behavior change most effectively when groups function as genuine, continuously co-present reference groups, such as with the nursing profession. It also highlights how individual shifts among managers further shape workplace culture, making person-centered care behaviors expected and valued

Individual-level determinants such as Intention and Beliefs about Capabilities may facilitate initial change, but sustainability depends on the broader social environment¹⁶. Some implementation science studies have recognized the persistent gap between intention and actual behavior, showing that even strong, sustained gains in intention-related constructs do not necessarily translate into equivalent changes in behavior²⁰. Hence, this finding suggests that the training may have enhanced psychological readiness for customer care behaviors; however, whether this readiness consistently translates into practice remains an important question for future research.

An interesting finding is that only nurses demonstrated significant long-term improvements across all five psychometric domains for active listening and professional responsiveness, with highly significant gains in Social Influence across all three behaviors. This delayed pattern echoes findings from communication-skills training research, which shows that some new behaviors may only emerge over time as people gradually integrate these skills into routine practice²⁵. Active listening and responsive engagement are attitude-based behaviors that often require repeated real-world experience before solidifying as internalized ethical norms. This interpretation is especially relevant for nurses, for three reasons. First, nurses are most directly and continuously engaged in patient care and comprise the largest share of the sample (54%). Second, their professional training emphasizes the three studied behaviors (active listening, clear communication, and professional responsiveness), skills central to nurses' professional identity and daily responsibilities. Thirdly, nurses work in teams and share clinical spaces, creating more opportunities for peer reinforcement of training behaviors^{19,24}. Similar studies using the CPD reaction questionnaire show that physicians and nurses, who are often the most represented professionals in multidisciplinary training, tend to report greater gains in domain scores¹⁵. Together with our findings, this suggests that while multidisciplinary training has value, profession-specific factors may play a significant role in shaping outcomes.

Active listening and professional responsiveness are central to what nurses do with patients, families, and teams, so they are repeatedly practiced and observed in routine care²⁶. Studies have labeled these behaviors as professional identity that nurses gain by observing communication, interacting with patients, and reflecting on those encounters, which makes these relational behaviors more likely to become part of how a nurse acts^{27,28}. This finding indicates that the training elevated the ethical importance of active listening and professional responsiveness among nurses (attention to patient concerns, efficient complaint handling, and de-escalation of friction), reinforcing these discrete, practice-based behaviors that can be observed, practiced, and evaluated.

Clear communication showed the least improvement, with significant changes only in Social Influence in six months. Clear communication entails eliminating medical jargon and using language patients can understand, and it is more dependent on institutional norms and organizational support than on individual skill development²⁸. The absence of gains in Beliefs about Capabilities suggests that participants may not have felt more confident in their communication skills, even as peer expectations shifted.

Based on this finding, the study has the following implications for policy and practice

1. Customer care training should be designed to strengthen social influence by fostering shared experiences, collective norms, and peer support, enabling cultural change that extends beyond individual participants and enhances patient care across the organization.
2. While interdisciplinary training fosters shared understanding, tailoring programs to specific professional groups, particularly nurses, can maximize impact. By investing in nursing leadership and professional development, healthcare organizations can leverage nurses' responsiveness to training and their central role in patient-centered care to drive cultural change and improve quality of care.
3. The behavior-specific patterns indicate that training should differentiate between types of communication behaviors. Professional responsiveness, which showed immediate and sustained improvements, may be addressed through straightforward skill-building exercises. Active listening and clear communication, which showed more complex patterns, may require deeper, longer-term approaches that address professional identity, ethical norms, and workplace culture.

Our findings add to regional literature on person-centered care by moving beyond documenting patient-level problems such as poor communication and inconsistent responsiveness. It provides hospital-level, theory-based evidence that experiential training can reshape the behavioral foundations that have been largely agreed upon as an area where hospitals in Africa need to strengthen^{6,7}

Study Limitations

This study has several limitations that should be considered when interpreting the findings. First, the use of a single facility and a sample size of 31 participants is small, which limits the statistical power and generalizability of the findings. Secondly, while the CPD-Reaction questionnaire is a validated instrument with good psychometric properties, self-report data can overestimate actual behavior change due to social desirability bias. Future studies may use behavioral observation or patient-reported measures to complement self-report data.

Conclusion

The findings suggest that tailored customer care training may strengthen behavioral determinants of person-centered care, particularly when reinforced through peer norms and professional group support. The CPD-Reaction framework proved effective in tracking changes across five psychometric domains, revealing that Social Influence is the primary driver of long-term behavior change. The training's impact was most pronounced among nurses, who demonstrated broad, multi-domain improvements, while other health professionals showed more limited responses. Social influence was the most consistently strengthened and retained across all three behaviors, indicating that the intervention's main impact was to recalibrate peer and institutional expectations rather than simply transfer individual skills. Health care organizations should recognize nurses as key change agents and invest in their professional development, particularly in communication and leadership skills. At the same time, training should be tailored by professional groups designing customer care programs that deliberately build social influence through peer learning, collective goal-setting, and ongoing support networks, while addressing the specific behaviors most relevant to each role.

Declarations

Author Contribution

Atenchong Ngwibete: Conceptualization & Study Design Methodology, Designed the training intervention and evaluation tools, Oversaw data collection procedures and ensured methodological rigor, Data Collection & Management, Maintained data integrity and confidentiality, Data Analysis & Interpretation, Interpreted findings in relation to person-centered care and communication behaviors, Writing – Original Draft Preparation

Daniel Mwendwa Maweu : Conceptualization & Study Design Methodology, Designed the training intervention and evaluation tools, Review & Editing

Esther Gaga : Conceptualization & Study Design Methodology, Review & Editing

Catherine Uwimana : Conceptualization & Study Design Methodology, Coordinated participant recruitment and managed longitudinal data collection, Designed the training intervention and evaluation tools, Interpreted findings in relation to person-centered care and communication behaviors, Review & Editing

Belise S Uwurukundo: Coordinated participant recruitment and managed longitudinal data collection, Review & Editing

Liliane Ingabire : Coordinated participant recruitment and managed longitudinal data collection, Review & Editing

Kara L. Neil: Coordinated participant recruitment and managed longitudinal data collection, Review & Editing

Ruth Mbabazi : Coordinated participant recruitment and managed longitudinal data collection, Review & Editing

Helen Ewing : Conceptualization & Study Design Methodology, Designed the training intervention and evaluation tools, Data Collection & Management, Review & Editing, Interpreted findings in relation to person-centered care and communication behaviors, provided feedback on structure, language, and alignment with journal standards, Supervision & Project Administration

Augustine Ndaimani : Conceptualization & Study Design Methodology, Designed the training intervention and evaluation tools, Data Collection & Management, Review & Editing, Supervision & Project Administration, Provided overall guidance, oversight, and ensured adherence to research ethics.

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Figures

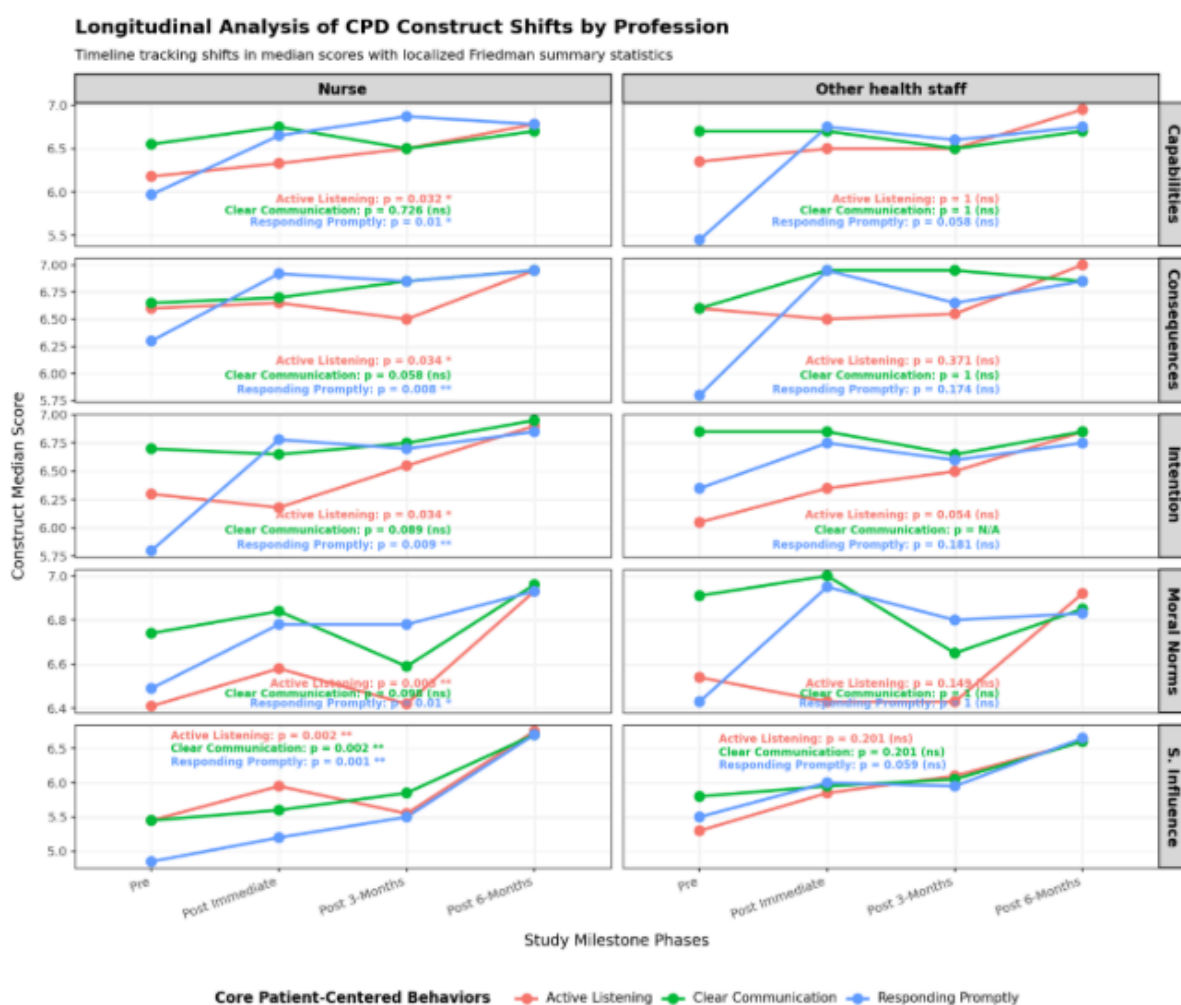


Figure 1

Unnumbered image in the Result section.