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HIPAA Compliant Patient-Provider Communication: Student-Clinician Perceptions

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Author Note

Rachel Wenzl has completed this project as a student in the College of Public Health, Department of Health Promotion per the Master's of Public Health degree requirements.

Abstract

Purpose: To evaluate the service learning clinical training facility's HIPAA training by assessing student-clinician knowledge of the clinic's HIPAA Compliance Plan and the impact of its training on student-clinician perceptions toward HIPAA-compliant patient-provider communication (PPC). For example, do student-clinicians feel it is important to be HIPAA-compliant and are they confident in discussing health-related activities and programs with patients or caregivers? The purpose of this project is not, at this time, to measure student-clinician intention to perform the behavior.

Methods: This project employed a mixed-methods, non-experimental cross-sectional study design using a retrospective post-test survey and group interview. The survey was administered to student-clinicians ($N = 39$) at the service learning clinical training facility who were enrolled in the speech-language pathology and audiology programs. Survey responses were analyzed using the Wilcoxon Signed Rank test and descriptive statistics assessing knowledge. A group interview was conducted with a subset of first-year student-clinicians ($n = 2$). The group interview provided additional context and insight into how student-clinicians may actually perform when presented with the most common clinical scenarios for PPC at the clinic such as, 1) caregivers accompanying clients into the exam room, 2) email communication with a caregiver requesting information to assist the client, and 3) communication with a client in a public space. Common themes and the most common responses for each scenario were identified.

Results: Overall, the Wilcoxon-signed rank test showed that the clinic's HIPAA training produces a statistically significant improvement in student clinician perception six months post training as it relates to HIPAA-compliant PPC through analysis of perceptions toward self-

efficacy ($Z = -4.814$, $p < .001$), perceived behavioral control ($Z = -5.307$, $p < .001$), perceived norms ($Z = -4.503$, $p < .001$) and beliefs ($Z = -5.088$, $p < .001$) with 76.9 percent of respondents passing the knowledge portion of the survey.

Recommendations: 1) Based on the findings of the service learning activities and the evaluation, implementation of HIPAA training sessions periodically throughout the academic year in addition to continuation of the current annual training session should be completed. 2) Further evaluation of the clinic's workforce in relation to behavioral intention to complete HIPAA-compliant PPC should be completed through replication of the evaluation using a traditional pre-post survey administered immediately before, after and 6 months post annual training. 3) The Clinic should implement electronic forms to assist the workforce when reporting a breach in HIPAA privacy. An electronic reporting process might enable a greater sense of one's ability to perform a behavior while increasing confidentiality of the reporter.

Introduction

Most people encounter the Health Information Portability and Accountability Act (HIPAA) in the form of HIPAA privacy notices when visiting medical offices as a patient. Only a portion of the United States population encounters HIPAA complexities as an employee of a covered entity, including workforce members at the service learning clinical training facility. The clinical training facility is housed within a University setting and is a unique clinical training facility. The Service learning clinical training facility provides:

“Services for individuals with communication and balance impairments. Clinic providers serve all ages and address a broad range of disorders. Services are provided by American Speech-Language-Hearing Association (ASHA)-certified speech language pathology and audiology faculty members and student clinicians,” (as indicated in the organization’s online profile).

For a covered entity such as the service learning organization, every member of its workforce, including its student-clinicians, is part of the ongoing efforts to comply with HIPAA. Non-compliance by anyone could be detrimental to the service learning clinical training facility. For example, the Office of Civil Rights (OCR), the administrative office of HIPAA, has settled 52 cases in which covered entities were not HIPAA-compliant resulting in a total dollar amount of \$72,929,182.00 paid to the U.S. government in penalties and fines (HIPAA for Professionals, 2017). HIPAA non-compliance could prove to be very costly for the organization if not taken seriously.

Per federal regulations at 45 CFR 160.103 a covered entity is defined as either a health plan, a health care clearinghouse, or a health care provider who transmits any health information in electronic form in connection with a transaction covered by Health and Human Services (2017). HIPAA requires covered entities, in general, to apply appropriate administrative, technical, and physical safeguards to protect the privacy of protected health information (PHI).

The Department within the University setting and the service learning clinical training facility function as a hybrid entity in that the Department's operations are not regulated by HIPAA while most of the clinic's operations must comply with HIPAA. In order to do so, the clinical training facility has a comprehensive HIPAA Compliance Plan that adheres to HIPAA through the Privacy Rule, the Security Rule, and the Breach Notification Rule. Its policies and procedures describe, for example, human resource requirements including workforce training and sanctions, uses and disclosures, data breaches, and security standards.

Students, including those at the service learning clinical training facility, are in a unique position during their time in a clinical and academic setting. Students are expected to understand and execute HIPAA-compliant patient-provider communication (PPC) on day one using either in-person or electronic modes with patients and their caregivers in a clinical setting while also learning from their clinical experiences in the classroom setting. This in turn requires them to discuss their clinical experiences with other peers. Coupled with the complexity of HIPAA, this can be a difficult and tricky path for students to navigate and master (Street, Makoul, Arora, & Epstein, 2009) as they learn to provide quality care and communicate with patients, family members or caregivers, healthcare administrators, or other clinicians while maintaining HIPAA compliance.

Fortunately, HIPAA requires healthcare organizations to train their workforce, including student-clinicians. In general, HIPAA training requirements are set through the Security Rule under the administrative safeguards at 45 CFR 164.308(a)(5)(i): "Standard: Security awareness and training. Implement a security awareness and training program for all members of its workforce (including management)" (2017). The Office of Civil Rights maintains that the HIPAA Rules are "flexible and scalable to accommodate the enormous range in types and sizes

of entities that must comply with them. This means that there is no single standardized program that could appropriately train employees of all entities” (HIPAA Training and Resources, 2017).

Per the clinical training facility’s HIPAA Compliance Plan policy #4.5 titled, “Training,” the facility must conduct annual training with all members of its workforce, including all student-clinicians in the Department’s academic graduate programs. Training occurs during the first weeks of a new academic year (typically beginning the last week of August). Annual training is conducted by the Privacy Officer, and covers information related to HIPAA-compliant PPC. Training empowers the clinical workforce to provide the best service possible to clients, safeguard the clinical network and individual login information, access only records necessary to perform a job, discuss client information only in spaces where privacy can be assured, disclose information only to those involved in the care of a patient or as allowed/required by law, and discard information properly.

PPC, although not specifically defined in the literature (Ishikawa, Hashimoto, & Kiuchi, 2013) has core functions such as: the exchange of information (e.g., discussing a treatment plan with a client), supporting patients' self-management (e.g., following up with a patient if they have a question about how to implement their treatment plan), the management of uncertainty and emotions (e.g., passing on bad news to clients), decision making (e.g., deciding when and how to communicate treatment plans), and enhancing the provider-patient relationship (e.g., building trust in the clinician/provider).

Project Objectives

HIPAA is a complex set of regulations through which a covered entity has flexibility to train its workforce as it deems appropriate. There is currently no nationally-standardized process for organizations to follow when training their employees, which may complicate how best to

measure the success and impact of a HIPAA training program. While the service learning clinical training facility has consistently trained its workforce annually, it is currently unknown how HIPAA training impacts student-clinicians' perceptions and knowledge as it relates to HIPAA-compliant PPC.

In order to evaluate the current clinical training facility's HIPAA training, a quality assurance/quality improvement (QA/QI) project was conducted. The following aims were identified:

- QA/QI Aim#1: Assess the student-clinicians' current knowledge of the HIPAA Compliance Plan.
- QA/QI Aim #2: Evaluate the impact of HIPAA training on the student-clinicians' perceptions toward HIPAA-compliant PPC. For example, do student-clinicians feel it is important to be HIPAA-compliant and are they confident in discussing health-related activities and programs with patients or caregivers? At this time, the study will not measure student-clinicians' intentions to perform the behaviors.

Literature Review

The dos and don'ts of HIPAA compliance can be quite overwhelming for someone first learning how to effectively communicate with and about patients, let alone having to ensure communication is executed without a HIPAA violation. To make things more complex, a clinical training facility is likely part of an academic institution affiliated with a health care organization. Students may have responsibilities in both the health care organization (usually the covered entity) and the academic institution (usually not part of the covered entity). HIPAA training programs that highlight these complexities may, more often than not, see successful PPC being executed at their facility. Agris & Spandorfer (2016) note that training programs should be

tailored to the trainees and their roles within the covered entity, and a training program that covers more topics than necessary arguably will meet compliance with the training requirement of the HIPAA Security Rule, but likely will not facilitate learning in the student setting.

HIPAA Background and the Inclusion of Student-Clinicians

HIPAA compliance standards began in 2003 and were enacted to increase effectiveness and efficiency in the healthcare system through the Privacy Rule, the Security Rule, the Enforcement Rule, and parts of the Health Information Technology for Economic and Clinical Health (HITECH) Act. Specifically, the Privacy Rule sets national standards for the protection of individually identifiable health information by three types of covered entities: health plans, health care clearinghouses, and health care providers who conduct standard health care transactions electronically. The Security Rule sets national standards for protecting the confidentiality, integrity, and availability of electronic Private Health Information (PHI). The Enforcement Rule provides standards for the enforcement of the Administrative Simplification Rules, and the final Omnibus rule implements a number of provisions of the HITECH Act to strengthen the privacy and security protections for health information established under HIPAA. The HITECH Act then finalizes the Breach Notification Rule (HIPAA for Professionals, 2017).

Covered entities including clinical training facilities such as the service learning clinical training facility must ensure their workforce understands the complexities of the Rules and Acts intersecting with PHI. Covered entities have the flexibility and authority to shape their policies and procedures for minimum necessary uses and disclosures to permit clinical trainees access to patients' medical information, including entire medical records (OCR, 2017) to conduct high-quality PPC. As discussed previously, specific training requirements or national standards are absent from the HIPAA Enforcement Rule, it is a covered entity's responsibility to develop a

training program. Some believe the lack of specificity within the HIPAA Security Rule, previously described, has led to a decline in high quality training (Agris & Spandorfer, 2016) possibly resulting in a decline in quality PPC. Under the HIPAA framework, the OCR recognizes students in health care educational programs as covered by HIPAA and views them as providers who have a right to use health care information in the delivery of care and as part of their educational process (Wimberley, Isaacson, Walden, Wiggins, Miller, & Stacy, 2004).

Core Functions of Patient-Provider Communication related to Patient-Centered Care

As discussed earlier, the core functions of PPC include: the exchange of information, supporting patients' self-management, the management of uncertainty and emotions, decision making, and enhancing the provider-patient relationship. One of the core functions of PPC is also one of the emphases of patient-centered care (PCC). The Institute of Medicine (IOM) highlights patient-centered care as one of its six major domains of health care quality (2001). Patient-centered care is defined as “care that is respectful of and responsive to individual patient preferences, needs and values and ensuring that patient values guide all clinical decisions.” The IOM further clarifies that healthcare should be safe, effective, timely, efficient, and equitable (Institute of Medicine, 2001). The service learning clinical training facility commits to these standards through HIPAA Compliance Plan policy #4.4 titled, “HIPAA and Quality of Care” stating, “HIPAA is not intended to interfere with quality patient care. The clinic’s policies and physical, technical and administrative safeguards responding to HIPAA are not intended to interfere with quality patient care.”

In order to help a healthcare organization such as the service learning clinical training facility meet these standards, the IOM has identified 10 principles to re-design current healthcare systems into 21st-century healthcare systems. Of the 10 principles, two are especially salient for

this project: 1) “Care is based on continuous healing relationships. Patients should receive care whenever they need it and in many forms, not just face-to-face visits,” (Institute of Medicine, 2001). Based on this principle, the service learning clinical training facility should be responsive at all times, and access to care should be provided over the Internet, by telephone, and by other means in addition to in-person visits. 2) “Knowledge is shared and information flows freely. Patients should have unfettered access to their own medical information and to clinical knowledge. Clinicians and patients should communicate effectively and share information” (Institute of Medicine, 2001). Based on this principle, the service learning clinical training facility should be able to speak to all individuals who are part of the client’s care to ensure quality patient care and PPC should be convenient, easily accessible, and through whatever means the patient prefers for the patient’s healthcare decisions. The service learning clinical training facility strives to ensure that their patients and caregivers are informed, knowledgeable and play an active role in their own care through the core functions of PPC while adhering to the service learning clinical training facility HIPAA Compliance Plan.

Based on the review of the IOM principles relevant to this project, HIPAA-compliant PPC appears to be in direct competition with high standards for quality patient care, further creating uncertainty for the student-clinician when communicating with a patient who has unrealistic expectations for how [HIPAA-compliant] PPC can or should take place (Ha, & Longnecker, 2010). For example, patients may believe that student-clinicians should text message their health information to them via phone when their test results are available, or assume that PPC can be delivered in an open environment such as the clinic waiting room. Given these complexities and what appears to be competing priorities, it is important to ensure that effective training is in place and has a positive impact.

Healthcare Training Background

Literature describing evidence-based approaches related specifically to the effectiveness of HIPAA training is limited, as is information about student-clinicians' perceptions toward HIPAA-compliant PPC. On the other hand, opinion-based articles or discipline recommendations are readily available describing what experts *believe* should be done to ensure high-quality HIPAA training. With evidence-based literature limitations related to understanding impacts of HIPAA-training on PPC, it is helpful to turn toward literature related to 1) training for health information technology in general, and its outcomes related to improvement in PPC; 2) training as it relates to performing certain medical procedures and how student-clinicians build self-efficacy; and 3) communication skills training and how measurement of training outcomes can be conducted using a pre/post methodology, to inform this project.

Health Information Technology (Health IT) Training

HIPAA-compliant PPC must adapt to ever-changing technologies and the environment that we live in, including the electronic ways in which our society exchanges information freely. A report recently published by Finkelstein and colleagues (2012) observes that the health care community widely recognizes the potential of health information technology (IT) in enabling patient-centered care, and characterizes how health IT applications are improving clinical outcomes for patients (including quality of life) and PPC. The objective of their report was to review the evidence on the impact of health IT in supporting patient-centered care (PCC) across many dimensions. Among those dimensions were shared decision-making, patient-clinician communication, and access to information. With specific regard to patient-clinician communication, the report analyzed the following sub-questions, "Are health IT applications that address one or more components of PPC effective in improving shared decision-making between

patients, their families, and providers, patient-clinician communication¹, access to medical information; and how do these improvements vary by type of health IT application?” The authors reviewed twenty-five studies to answer this question. Their analysis included health IT applications such as clinical decision aids, shared decision-making tools, and telemedicine or telemonitoring systems. The outcomes were highly variable as noted by the authors, but overall, they cited positive outcomes including improved PPC (Finkelstein, et al., 2012) when conducting health IT training. Based on these outcomes, it can be posited that HIPAA training may also show positive outcomes as it relates to HIPAA-compliant PPC as it did through Health IT training.

Medical Procedures Training

In addition to individual one-time training procedures, continuous professional development such as ongoing HIPAA training is important. Healthcare professionals do not emerge from their initial training with all of the skills they need for HIPAA-compliant PPC fully mastered. Acquisition of skills, such as communication with patients, families, and other professionals, is an ongoing process (Guillemin, McDougall, & Gillam, 2009). Literature related to clinician confidence and self-efficacy performing certain medical procedures provides evidence that with more practice of a particular procedure (e.g., HIPAA-compliant PPC), the student gains confidence in performing the procedure. Conversely, students who are underexposed to certain procedures feel uncomfortable performing them (Barr, & Graffeo, 2016). Based on this evidence, we can posit that the more practice or learning tools provided, the better the student-clinician will be at performing HIPAA-compliant PPC.

¹ The term “patient-clinician communication” is specific to the cited report in the Health IT literature review section. In all other portions of the paper the more common term “patient-provider communication” is used.

Communication Skills Training

Communication Skills Training (CST) has been widely cited as improving PPC (Saslaw and colleagues,2017). A meta-analysis on CST in oncology practice has also illustrated effects of CST on communication behavior and skills, concluding that training health professionals through CST can change communication behavior and attitudes (Barth & Lannen, 2010). This provides further support that HIPAA training will also have an impact on perceptions towards HIPAA-compliant PPC. Additionally, results from a separate study conducted by Ammentorp, Sabroe, Kofoed, & Mainz (2006) were found to be significant showing that clinicians who participated in a communication [training] course improved their self-efficacy for specific communication tasks with an increase of up to 37% post-training. One of the study aims examined the effect of CST on doctors' and nurses' self-efficacy. This study was conducted as a randomized trial with clinicians in the intervention group receiving a 5-day communication course. The control group received no intervention. While the initial results showed improvement, it is also significant to this project that they were able to show the improvements remained constant for six months post training, which is significant as it relates to the timing of the QA/QI project undertaken for the service learning clinical training facility. Overall, the authors conclude that CST can improve a clinician's evaluation of his or her ability to perform a specific communication task through self-efficacy measurements.

In an additional study, rather than using a randomized trial, Saslaw and colleagues (2017) used a retrospective posttest methodology to show evidence that CST can improve self-efficacy, attitudes, and behaviors with regard to PPC. A one-time 7.5 hour workshop was completed at a healthcare facility. Six weeks later, data were obtained from participants on a variety of topics including skills taught, attitudes toward communication training, and provider behaviors when

communicating with patients. Based on analysis of the data, there was a significant change in self-efficacy, attitudes, and behaviors related to PPC. The authors conclude that a CST can be effective in improving participants' self-efficacy, attitudes, and behaviors toward communicating with patients. These studies show proven methodologies that can be used to measure effectiveness of healthcare training programs and can be used as a reference for this project's framework.

The fiscal penalties for careless behavior by workforce members have brought HIPAA training issues into close focus of late (Agris & Spandorfer, 2016). Moreover, breaches of HIPAA confidentiality and news articles relating to such breaches may lead to distrust of medical providers or the facility itself, further supporting the need to assess the current impact Service learning clinical training facility HIPAA training has on its workforce, including its student-clinicians.

Methods

Theoretical Framework

The methods were developed and based upon the constructs of the Theory of Planned Behavior (Ajzen, 1991). The underlying theme of the Theory of Planned Behavior (TPB) notes that the most important determinant of a behavior (i.e., HIPAA-compliant PPC) is behavioral intention. To predict that someone will have the intention to communicate in a HIPAA-compliant way, the TPB measures direct determinants of behavioral intentions through their attitudes and subjective norms relating to the behavior, along with the individual's perceived control over the behavior (Glanz, Rimer, & Viswanath, 2008). In order to ensure the framework of the Theory of Planned Behavior was incorporated, the retrospective posttest survey incorporated the constructs of self-efficacy, perceived behavioral control, perceived norms, and beliefs.

Overall, the TPB notes that one's attitude [toward HIPAA-compliant PPC] will be determined by one's belief about performing the behavior including self-efficacy, societal and organizational norms surrounding the behavior, willingness to perform the behavior, and the presence or absence of performance barriers. If individuals have a strong belief that a positively valued outcome will result from the behavior, they will likely have a positive attitude toward the behavior. In this case, the service learning clinical training facility's student-clinicians who have a strong belief that HIPAA compliance brings value, will have positive perceptions towards HIPAA-compliant PPC. Additionally, if an individual believes that persons around them approve of the behavior (i.e., societal and organizational norms) in conjunction with their motivation to perform the behavior, they will, again, likely have positive perceptions toward HIPAA-compliant PPC.

Study Design

This project employed a mixed methods, non-experimental cross-sectional study design. The study population was limited to first-year student-clinicians within the University's graduate programs. These graduate student programs have clinical requirements to treat clients at the service learning clinical training facility and must adhere to the service learning clinical training facility's HIPAA Compliance Plan. The study samples for the survey and group interview were chosen based on the method of data collection.

- Survey inclusion criteria:
 - Be a first-year student-clinician of the academic graduate programs
 - Have completed the service learning clinical training facility's HIPAA training either in-person or online via Canvas, Fall 2017.
- Group Interview inclusion criteria:

- Be a first-year student-clinician of the academic graduate programs
- Have completed HIPAA training at the service learning clinical training facility either in-person or online via Canvas, Fall 2017.
- Be in the graduate program and through this program is likely to treat an adult patient who is accompanied at the treatment session or clinical appointment by a family member or caregiver who is not a legal guardian.

Data Collection Procedures

Service learning clinical training facility first-year student-clinicians academic graduate programs ($N = 39$) responded to a retrospective post-test survey (Survey tool. Appendix #1) approximately six months post HIPAA training. A response rate of 100 percent was achieved. The survey tool was developed to measure the constructs of self-efficacy, perceived behavioral control, perceived norms, and beliefs as they relate to HIPAA-compliant PPC along with questions testing the students on their current knowledge of the service learning clinical training facility's HIPAA Compliance Plan. In total, 37 items were included on the survey with 8 items measuring self-efficacy, 8 items measuring perceived behavioral control, 5 items measuring perceived norms, 6 items measuring beliefs, and 10 questions measuring current knowledge.

During survey administration, student-clinicians were asked to remember their perceptions before the service learning clinical training facility's HIPAA training was completed (August 2017) and approximately six months post training (January 2018). Respondents indicated their level of agreement with each statement retrospectively (pre-training) and at the time of survey completion (post-training) using a five-point, Likert-type scale with response options ranging from not at all confident (1) to extremely confident (5). A validated measure assessing self-efficacy of PPC was used (Parle, Maguire, and Heaven, 1997) while questions

exploring perceived behavioral control, perceived norms, and beliefs were created specifically for this project. The self-developed questions were not pre-tested due to the timing of data collection procedures.

In addition to the questions addressing self-efficacy, behavioral control, perceived norms, and beliefs, the survey also included a section that tested student-clinician knowledge of the concepts discussed during the service learning clinical training facility HIPAA training. Knowledge questions included on the survey were based on the questions from the standard service learning clinical training facility HIPAA training quiz taken by those who fulfilled the service learning clinical training facility HIPAA training requirements online. Knowledge question response options included true-false, multiple-choice and select-all-that-apply options. Knowledge questions were presented after the retrospective post-test to reduce bias, as the knowledge questions could have induced a priming effect towards self-efficacy.

Of those who completed the survey, a sub-sample of participants from the graduate program meeting group interview selection criteria were asked to participate in a discussion further exploring the complexities of HIPAA-compliant PPC. A one-time group interview was conducted with two participants. Differing scenarios were discussed and the student-clinicians were asked how they would assess and communicate in specific communication situations, such as, 1) caregivers accompanying clients into the exam room, 2) email communication with a caregiver requesting information to assist the client, and 3) communication with a client in a public space. A small sample size was achieved due to the limited amount of time allotted for recruitment and minimal communication sent to potential participants. A one-time sign-up sheet was passed around the class section with an invitation for any interested participants to sign-up for the group discussion. If group interviews were to be conducted in the future, further emphasis

and time would be spent on recruitment and communication with potential participants to ensure a larger sample size.

Analysis Methods

Descriptive statistics were used to measure central tendency and for illustrative purposes when viewing the data graphically. To measure statistical significance, the Wilcoxon-Signed Rank test was used after checking for normality. Data were entered and cleaned via SPSS. Individual responses for each scale of self-efficacy, perceived behavioral control, perceived norms, and beliefs were summed individually across each participant for both the pre and post-test responses. Upon summing the pre and post-test responses for each participant, each total was divided by the number of questions within the particular scale creating an individual score for each scale. After computing the score for each scale and checking for normality, the non-parametric Wilcoxon Signed-Rank test was used to evaluate changes in student-clinician perceptions toward HIPAA-compliant PPC.

Service learning clinical training facility HIPAA training knowledge (separate from the scales of self-efficacy, perceived behavioral control, perceived norms, and beliefs) was also analyzed using descriptive statistics to evaluate student-clinician knowledge six months post training. Questions included in the knowledge portion of the survey mirrored those included in the standard service learning clinical training facility training quiz taken during an online administration of the HIPAA training. These questions were made available by service learning clinical training facility leadership. Each respondent was graded with a pass score of 80 percent or greater by answering at least 8 out of 10 questions in the knowledge portion correctly. This criterion is the same pass/no pass grading system used for the service learning clinical training

facility HIPAA training quiz. All statistical analyses adhered to a 95% confidence level, .05 significance level. Statistical analysis was conducted by using SPSS, version 25.0.

Qualitative data were collected to supplement the quantitative data using an Embedded design (Creswell & Creswell, 2017). Using this method, we can further explore the perceptions of the student-clinician toward HIPAA-compliant PPC and gain further insights into our survey results. The group interview was transcribed verbatim by the University of Nebraska–Lincoln, Bureau of Sociological Research. Upon receipt of the transcripts, detailed review was conducted using thematic analysis. Transcripts were organized according to the lead-in questions, responses for each question were then organized accordingly under each question. Categories or themes were identified from the responses.

Results

All data were included in the analysis. Table 1 presents the pre and post-test results of the Wilcoxon-Signed Rank test for each scale including self-efficacy, perceived behavioral control, perceived norms, and beliefs. A detailed description of the results from each scale follows including graphical representation of the findings.

Table 1
Wilcoxon Signed Rank Test results: self-efficacy, perceived norms, perceived behavioral control & beliefs

	Pre	Post	p-value
Self-efficacy	3.125	3.875	< 0.001
Perceived Behavioral Control	2.375	4.000	< 0.001
Perceived Norms	3.800	4.600	< 0.001
Beliefs	4.167	4.500	< 0.001

*Pre and post results are reported as median values

**Responses for one question within the perceived norms scale were reverse coded

Overall, the Wilcoxon-signed rank test shows that Service learning clinical training facility HIPAA training produces a statistically significant improvement in student clinicians' perception six months post training as it relates to HIPAA-compliant PPC, through analysis of perceptions toward self-efficacy ($Z = -4.814$, $p < .001$), perceived behavioral control ($Z = -5.307$, $p < .001$), perceived norms ($Z = -4.503$, $p < .001$), and beliefs ($Z = -5.088$, $p < .001$). Figure 1 also graphically illustrates the positively associated change in self-efficacy, perceived behavioral control, perceived norms and beliefs from pre to post-test six months following HIPAA training. Results of the knowledge portion of the survey showed 76.9 percent of student-clinicians passing with 30 out of 39 participants answering at least 8 out of the 10 questions correctly.

Verbatim transcripts from the group interviews were reviewed and coded using thematic analysis. Three themes emerged related to HIPAA-compliant PPC: 1) Some situations are awkward and more difficult to navigate than others, 2) Some situations may require more

experience than others to enable the optimal HIPAA-compliant PPC, and 3) Service learning clinical training facility resources are always available and are sought.

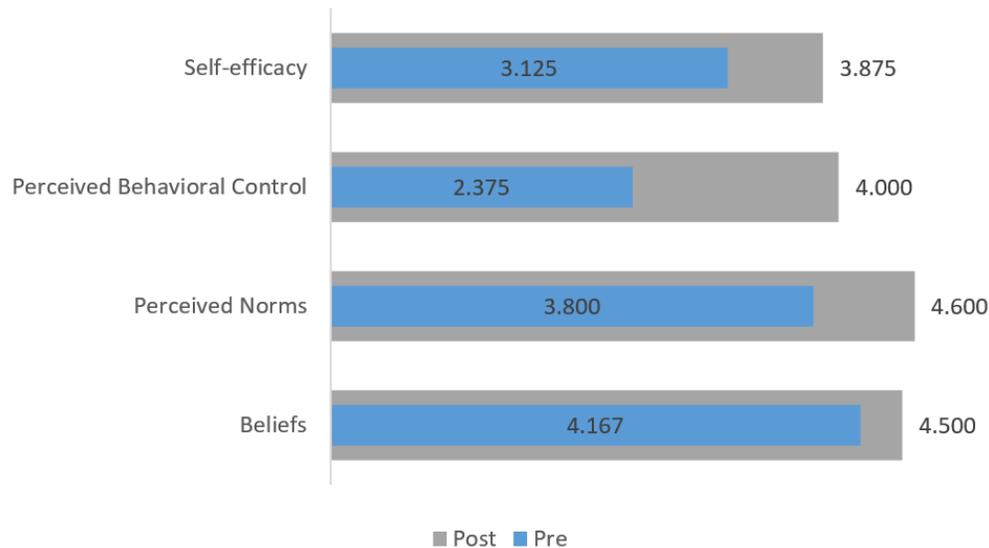


Figure 1: Wilcoxon Signed Rank test pre and post results reported using median values

Discussion

The results from the retrospective posttest survey and the group interview support the finding that service learning clinical training facility's HIPAA training produces positive change in the areas of self-efficacy, behavioral control, norms, and beliefs regarding HIPAA-compliant PPC for student-clinicians in the academic graduate programs. This positive change in turn is likely to lead to improvements in HIPAA-compliant PPC.

Based on further analysis of the individual questions within the scales, the constructs of self-efficacy and perceived behavioral control showed the greatest change from pretest (i.e., before service learning clinical training facility HIPAA training) to posttest (i.e., six months post service learning clinical training facility HIPAA training). In these two scales, most responses

moved from a negative or neutral response of 2.0 and 3.0 (unlikely / disagree and neither unlikely nor likely / neither disagree or agree, respectively) to at least 4.0 (likely). Findings related to self-efficacy provide greater insight into HIPAA-compliant PPC and show the service learning clinical training facility's student clinicians are more confident initiating discussion with clients, passing on bad news to clients and encouraging clients to talk about their feelings. For example, the process of ensuring the appropriate PHI authorizations are in place before discussing patient treatment plans in front of caregivers is a likely scenario that presents itself throughout the service learning clinical training facility daily operations. When student-clinicians are more confident building this process into their discussions, it will likely further improve HIPAA-compliant PPC. One group interviewee noted, "[they] would probably discuss [with the client] if they want this caregiver to continue to be involved [in their care]....and they would ask to obtain their signatures on the document to share their information." Since higher self-efficacy is a driver of successful performance of a related skill, such as PPC (Bandura, 1977), it can be posited that greater self-efficacy as it relates to HIPAA-compliant behavior will further improve PPC.

The findings related to behavioral control showed the greatest change from pretest to post-test among the scales. In particular, behavioral control by the participant related to reporting a HIPAA breach, using electronic communication within a HIPAA setting and knowing where to find Service learning clinical training facility HIPAA resources were behaviors that exhibit the most change from pretest with median response options 2.375 (unlikely [to be able to complete the action]) to posttest median response option of 4.000 (likely [being able to complete the action]). One group interviewee even noted that when finding what information might be sent, and how electronic communication might be used to do so, they would assess the situation, speak

with a supervisor and then “also look in our HIPAA manual too.” This is an important finding as it shows that the training, with particular emphasis placed on reporting of HIPAA breaches and seeking out resources, is something that a student-clinician feels has become easier for them and they can perform the action post HIPAA training.

The scales of perceived norms and beliefs also had a positive change from pretest to post-test. However, it is likely that most participants already had positive beliefs and agreed with societal and organizational norms that, for example, Service learning clinical training facility leadership placed a strong emphasis on HIPAA compliance, HIPAA compliance was important overall, clients may not return to the service learning clinical training facility if a breach has occurred, service learning clinical training facility leadership takes all breaches seriously, and that they would “feel bad” if a breach occurred and they did not report it regardless of who or what caused the breach, including themselves. A ceiling effect (Lewis-Beck, Bryman, & Futing Liao, 2004) appears to have an impact on responses for both the perceived norms and beliefs. For example, median response values at pretest begin with a positive response value near 4.0 (likely / agree) to post-test response values of 5.0 (very likely / strongly agree) showing only a small change from a positive response to an even greater positive response. It could be said that student-clinicians already had a strong belief system related to HIPAA-compliant PPC before HIPAA training.

Limitations

The results of the present study could be used as confirmatory findings of the utility of the current HIPAA training. However, the study has some limitations. First, the survey was completed six months post HIPAA training and the retrospective post-test method could make it difficult for participants to complete due to recall issues and may introduce systematic bias.

Second, with the survey being completed six months post HIPAA training, student-clinicians have already received programmatic training and are more experienced through everyday working practices than they would have been if the survey was completed immediately following the annual HIPAA training. It cannot be ruled out that the statistically significant findings obtained might be due to other factors contributing to the students' responses both during the pretest and post-test. These experiences could include graduate program clinical experience and any personal experiences and knowledge before program enrollment. Finally, weights were not applied to the scales of self-efficacy, perceived behavioral control, perceived norms and beliefs as this was an exploratory project and questions were not included in the survey about the participants [behavioral] intention to, for example, obtain verbal authorization from a patient's caregiver when accompanying the patient into the examination room. While the Theory of Planned Behavior helped to identify a framework in which to base our data collection procedures, the outcome most measured by the TPB, behavioral intention, is not able to be assessed at this stage.

Recommendations

1) Based on the findings of the service learning activities and the evaluation, implement HIPAA training sessions periodically throughout the academic year in addition to continuing the current annual training session. Additional training sessions could be tailored to situations that are reasonably expected to arise in the course of a student-clinician's program, but are not necessarily second nature. For example, having to obtain verbal authorization from a client could be the topic of an additional session. These sessions should be short in duration and at a time that is convenient to the student-clinician. Focus group participants suggested that a brief session could be introduced during the practicum sessions as another learning topic. Group interview

participants noted that “[they] learn best during the practicum sessions through the discussions that are occurring.”

2) Further evaluation of the service learning clinical training facility’s student-clinician workforce in relation to behavioral intention to complete HIPAA-compliant PPC should be completed through additional evaluation using a traditional pre and post method administering the survey immediately before and immediately after the annual training and 6 months post annual training. This would also allow for the service learning clinical training facility leadership to include all student members of the workforce and not just first-year student-clinicians. Using the traditional pre and post-test method before and immediately following HIPAA training will allow for greater accuracy as it relates to the knowledge portion of the survey and reduce the potential for systematic bias based on the timing of conducting the survey. Administering the survey again at 6 months post training will also increase the evaluation of knowledge retention and change in perceptions throughout student-clinician training.

3) The service learning clinical training facility should implement electronic forms to assist the workforce when reporting a breach in HIPAA privacy. An electronic reporting process might enable an even greater sense of one’s ability to perform a behavior while increasing confidentiality of the reporter. Service learning clinical training facility breach reporting forms would also expedite reporting requirements and may even begin to build metrics around the cost of HIPAA compliance at the service learning clinical training facility. Electronic forms could be built using Access and could interface with an online form using SQL on the service learning clinical training facility network.

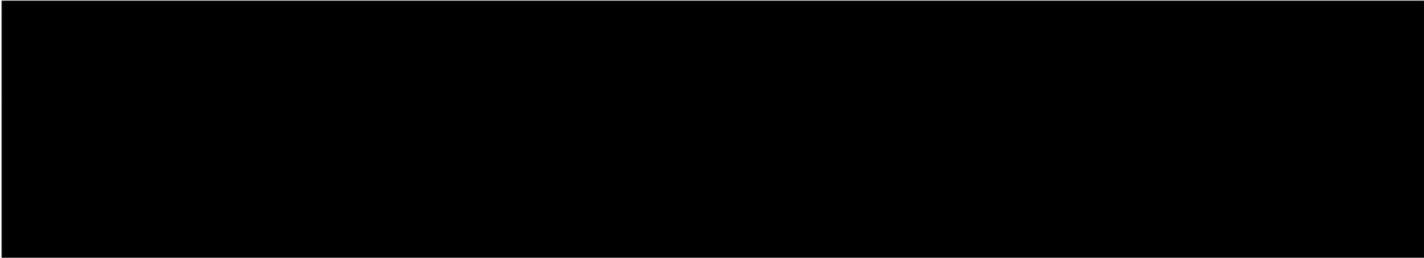
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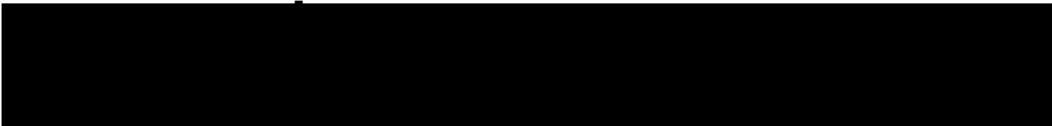
Patient-Provider Communication (PPC) and Health Insurance Portability and Accountability Act (HIPAA) Training: A Student-Clinician Perspective

Student-Clinician Survey

Instructions: There are two parts to this survey. Please answer questions in both Part 1 and Part 2. It is estimated to take no more than 10 minutes to complete the survey. *This survey is not connected in any way to your academic or clinical performance and will not be used for performance reviews or grading purposes. Please do NOT place any identifying information such as your name on the survey.*

- **Part 1:** Part 1 will ask about your experiences, beliefs and perceptions while a student-clinician at the [redacted] as it relates to HIPAA. You will respond twice to each question: once when “thinking back” before HIPAA training last semester and once when thinking about your experiences, beliefs and perceptions now.
- **Part 2:** Part 2 will ask you to complete questions about your current knowledge of HIPAA.

-- PLEASE BEGIN THE SURVEY BY GOING TO PAGE 2 --



PART 1 (Instructions: Circle the number for your answer in each column and row.)

Please rate how likely you believe you can...	Before HIPAA Training					Now				
	1=Very Unlikely	2=Unlikely	3=Neither Likely nor Unlikely		4=Likely	5=Very Likely				
Initiate discussion with clients about their worries	1	2	3	4	5	1	2	3	4	5
Encourage clients to talk about their feelings	1	2	3	4	5	1	2	3	4	5
Uncover strong feelings such as anxiety and worrying	1	2	3	4	5	1	2	3	4	5
End a conversation by summarizing problems and the agreed plan of action	1	2	3	4	5	1	2	3	4	5
Pass on bad news to clients	1	2	3	4	5	1	2	3	4	5
Control clients in an appropriate way with something they are in denial about	1	2	3	4	5	1	2	3	4	5
Handle that clients can have a different understanding of the situation	1	2	3	4	5	1	2	3	4	5
Help clients handle an uncertain situation	1	2	3	4	5	1	2	3	4	5

Please rate how likely you were/are able to complete the following actions...

	Before HIPAA Training					Now				
	1=Very Unlikely	2=Unlikely	3=Neither Likely nor Unlikely	4=Likely	5=Very Likely	1	2	3	4	5
Speak with patients about their clinical care with no concern about a HIPAA violation	1	2	3	4	5	1	2	3	4	5
Speak with patients about their health information with no concern about a HIPAA violation	1	2	3	4	5	1	2	3	4	5
Use electronic communication with patients about their clinical care with no concern about a HIPAA violation	1	2	3	4	5	1	2	3	4	5
Self-report a private health information breach	1	2	3	4	5	1	2	3	4	5
Report a private health information breach when you were not the cause of the breach	1	2	3	4	5	1	2	3	4	5
Obtain verbal authorization during a visit with a patient and caregiver	1	2	3	4	5	1	2	3	4	5
Obtain appropriate authorization for the disclosure of private health information	1	2	3	4	5	1	2	3	4	5
Know where the appropriate resources are to obtain [REDACTED] HIPAA information	1	2	3	4	5	1	2	3	4	5

Please rate whether you agree or disagree with the following statements...	Before HIPAA Training					Now				
	1=Strongly Disagree	2=Disagree	3=Neither Disagree nor Agree	4=Agree	5=Strongly Agree	1=Strongly Disagree	2=Disagree	3=Neither Disagree nor Agree	4=Agree	5=Strongly Agree
Clients believe that HIPAA compliance is as important as quality communication	1	2	3	4	5	1	2	3	4	5
Clients would be okay with you talking about their private health information with a stranger if it meant that they would receive better care at their next visit	1	2	3	4	5	1	2	3	4	5
██████████ leadership believes that HIPAA compliance is as important as quality communication	1	2	3	4	5	1	2	3	4	5
You believe that HIPAA compliance is as important as quality communication	1	2	3	4	5	1	2	3	4	5
██████████ leadership believes that taking a little longer with a client to maintain privacy is worth it in the long run	1	2	3	4	5	1	2	3	4	5
Clients notice when a privacy breach has occurred	1	2	3	4	5	1	2	3	4	5
Clients may not return to the clinic if a privacy breach has occurred	1	2	3	4	5	1	2	3	4	5
██████████ leadership take all privacy breaches seriously	1	2	3	4	5	1	2	3	4	5

You would feel bad if a client's health information was compromised	1	2	3	4	5		1	2	3	4	5
You would feel bad if a client's health information was lost	1	2	3	4	5		1	2	3	4	5
You would feel bad if you did not report a privacy breach right away	1	2	3	4	5		1	2	3	4	5

PART 2 (Instructions: Place a mark in the checkbox next to the best answer.)

Who must comply with the Health Insurance Portability and Accessibility Act (HIPAA)?

- State of Nebraska
- Everyone
- A covered entity
- The UNL campus

The following practices are good ways to protect Private Health Information (PHI), EXCEPT:

- Accessing records that your instructor requests you to access.
- Discussing patient information in a private exam room.
- Safeguarding your network and computer login information.
- Discarding information properly

The following will always happen when an incident is reported:

- The HIPAA Privacy Officer will lead an investigation.
- The HIPAA Privacy Officer will notify the US Department of Health and Human Services.
- Individual responsible for the breach will be fired.
- The incident will be reported to the state licensure board.

_____ obtains consent from patients for treatment purposes and payment activities because we are required to do so by:

- HITECH
- HIPAA
- Nebraska law
- FERPA

Notice of Privacy Practices:

- Describes how [REDACTED] may use and disclose PHI
- Lists the costs for services at the [REDACTED].
- Provides the contact information for making an appointment.
- Lists all of the clinic providers and their credentials.

[REDACTED] only has to protect PHI that is transmitted electronically.

- True
- False

Confidential information should NEVER be discussed:

- With classmates
- With clinical supervisors
- With law enforcement personnel
- On social media

You find a patient's clinic test results on a table in the patient waiting area, you must:

- Report it to your supervisor immediately.
- Keep it to yourself
- Post it on Facebook
- Make a chart note in the client's chart

Select the best location at the [REDACTED] to discuss patient information.

- [REDACTED] Garden
- Restroom
- Clinic conference room
- Student lounge

You may access patient information for research purposes if you have approval from:

- The Institutional Review Board
- Your clinical supervisor
- The Department Chair
- The HIPAA Privacy Officer

I have read and reviewed the [REDACTED] HIPAA Compliance Manual.

- True
- False

-- END --

PLEASE PLACE THE COMPLETED SURVEY IN THE ENVELOPE AT THE FRONT OF THE ROOM. THANK YOU FOR YOUR PARTICIPATION.

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