WEIGHT SCALES: DO THEY IMPACT HEART FAILURE HOSPITAL RECIDIVISM?

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Abstract

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By

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This study was designed to evaluate the impact of providing weight scales on the readmission rates of heart failure (HF) patients. The limited research on this topic has found a correlation between the provision of weight scales and decreased readmission rate. The literature review and Dorothea Orem's self-care theory establishes the importance of symptom recognition in HF patients to also decrease the rate of readmission. The original design was a quasi-experimental quantitative study of an intervention program using data from charts of HF patients who were given weight scales. This sample of patients would be compared to HF patients who did receive weight scales at a different institution. Two acute care hospitals in New Jersey; one had a HF discharge program that provided HF patients with weight scales; the other did not. Difficulties with implementing this field study made the original design impossible to implement. The new two-group design compared the readmission rates of HF patients who received weight scales to HF patients who did not receive weight scales at the same facility in Central Jersey. This design also proved impossible to implement due to a new set of difficulties related to conducting field studies. These difficulties made it impossible to reach any statistical conclusions about the effect of weight scale provision on HF patients. The significant learning of this study was about the difficulties of conducting field studies.

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CHAPTER I. Background

Nationally heart failure (HF) affects approximately 5.8 million people (Centers for Disease Control, CDC, 2010). The readmission rate of patients with a diagnosis of HF within thirty days of discharge from an acute care setting is 25% (Ross et al., 2009, p. 100). The average readmission cost of care to Medicare for a patient with a diagnosis of HF is $7000 per readmission (Phillips et al., 2004, p. 1366). In 2010, the total cost of care for HF patients in the United States was $39.2 billion (Centers for Disease Control, CDC, 2010). The impact of frequent readmissions to HF patients' quality of life is substantial because they verbalize the sense of not getting well, loss of activities of daily living (ADL's), and the ability to manage their self-care.

HF is the primary reason for hospital admissions of patients older than 65 and this accounts for more than 1 million admissions each year (Ermis & Melander, 2012, p. 23). HF annual cost of care is $29 billion with a national high thirty-day readmission rate. The total hospital cost of care per patient day is $2,084. The American Heart Association (AHA) predictions for 2030 include a 46% increase in the number of chronically ill heart failure patients (Bowers, 2013, p. 634). This will increase the cost of care to $53 billion. The provisions of the Affordable Care Act will not reimburse hospitals for thirty-day readmissions (Casteel, 2012, p. 1). Provisions for no reimbursement "may encourage creative hospital-based strategies beyond the traditional set of medication-based approaches to reduce early readmissions" (Vaduganathan, Bonow, & Gheorghiade, 2013, p. 346). Outpatient management of HF patients is crucial in the reduction of thirty-day readmissions. "Managing HF symptom exacerbation in the primary care setting is paramount to improving quality of life and reducing hospitalizations for this population" (Bowers, 2013, p. 634).

Consequently, HF is a major public health issue in the United States and policymakers are taking steps to identify and reduce readmissions. Some of the steps to reduce readmission rates are "publicly posting data on readmission rates and lowering payments to hospitals with high rates" ("Examining the Drivers of Readmissions", 2011). It has become common to post data about HF readmission rates. One of the provisions of the 2010 Affordable Care Act (ACA) is "the Hospital Readmissions Reduction Program (HRRP) under which Medicare will penalize hospitals for higher-than-expected rates of readmissions beginning in FY 2013" ("Examining the Drivers of Readmissions", 2011). HRRP will cause hospitals to lose approximately $280 million in Medicare funds within the next year (Rau, 2012, p. 1).

The goal of HRRP is to improve quality and reduce cost. The goal of care for HF patients is to improve their quality of life. In order to improve HF patients' quality of life, innovative programs are needed to reduce their readmission rates and save hospitals millions of dollars in revenue. The ACA does have provisions for improving quality and stimulating innovations (Mason, Leavitt, & Chaffee, 2012, p. 166). Providing HF patients with weight scales for daily monitoring is an innovative program to managing this disease and reducing readmissions.

Pathophysiology

Understanding the pathophysiology of HF directs us to the importance of weight scales. HF is defined as a syndrome of shortness of breath and fatigue from the inability of the heart to pump enough blood to the body. Left sided heart failure causes congestion in the lungs and right sided heart failure causes congestion of the liver, abdomen, and lower extremities (Price & Wilson, 2003, p. 466). The causes of HF are coronary heart disease, heart attack or myocardial infarction, hypertension, faulty heart valves, cardiomyopathy, and diabetes.

When the pumping capability of the heart is comprised, vital organ perfusion worsens. Since the kidneys are not getting enough circulating blood it causes the activation of the renin-angiotensin-aldosterone system (RAAS), which causes the retention of sodium and water (p. 466). This also causes the release of an additional hormone called antidiuretic hormone (ADH) or vasopressin, which prompts the body to retain more water. The kidneys are decreasing urine volume by returning more sodium and water to the blood. Catecholamine secretion increases vasoconstriction, which increases blood pressure and further hinders the emptying capability of the heart (Tortora & Grabowski, 1996, pp. 518-519). Consequently, the individual experiencing HF retains fluid and has associated weight gain. One kilogram of water weight equates to approximately one liter of fluid, adding considerably to patient symptoms and distress.

The symptoms of HF are categorized into two categories chronic and acute. The chronic symptoms are shortness of breath, fatigue, edema, cough, and gradual weight gain from fluid retention. The acute symptoms generally involve acute shortness of breath and hypo-perfusion of the vital organs. HF is progressive and is life threatening (http://www.mayoclinic.org). HF can be successful managed with medication (diuretics, angiotensin-converting enzyme inhibitors (ACEI) or an angiotensin II receptor blockers (ARB), Beta-blockers, aldosterone antagonists, and digoxin), diet, sodium restriction, exercise, lifestyle changes, and daily weight monitoring (Kemp & Conte, 2012, p. 370).

The Importance of Nurses to Promote Monitoring of Weight Gain

Nursing education on weight monitoring is important because the inability of the heart to pump effectively leads to fluid accumulation in the body, which causes the HF patient to gain weight. There are several organizations, including the Joint Commission on Accreditation of Health Care Organization (JCAHO), the Heart Failure Society of America (HFSA), and the

American College of Cardiology/American Heart Association (ACCF/AHA) that recommend HF patients should monitor their weight daily, at the same time and report to their healthcare provider any weight gain of three pounds or more in three days (http://www.heartfailurematters.org). White, Garbez, Carroll, Brinker, & Howie-Esquivel (2013) wrote that "although patients may not want to acknowledge weight gain, when to report weight gain is an essential teaching point to stress to patients during an inpatient educational session to avert a possible hospitalization" (p.143).

Daily weight monitoring is one of the recommendations of the JCAHO. It is described as a core measure of heart failure (VanSuch, Naessens, Stroebel, Huddleston, & Williams, 2006, p. 417). In May 2001, JCAHO introduced four core measurements for hospitals. The JCAHO collaborated with the Centers for Medicare and Medicaid (CMS) on standardizing the heart failure core measures. The core measures were renamed the National Hospital Quality Measures (NHQM). The NHQM sets are "expected to improve the quality of care for hospital patients while promoting examination of results of the care provided" (Stella, 2013, p. 1). The NHQM include "use of an angiotensin-converting enzyme inhibitor (ACEI) or an angiotensin II receptor blocker (ARB) for left ventricular systolic dysfunction (LVSD), left ventricular function (LVF) assessment, smoking cessation counseling, and HF discharge instructions" (Stella, 2013, p. 1). The "discharge instructions for HF patients should include diet, daily weight measurement, medication use, signs and symptoms that their condition is worsening, and follow-up plans" (Stella, 2013, p. 2).

The HFSA also recommends daily weight monitoring with patients reporting increases of two pounds in a day (Zhang, Goode, Cuddihy, & Cleland, 2009, p. 2). The published literature of the ACCF/AHA has shown the best practices for HF management does include daily weight

monitoring, along with the traditional management of medication compliance, restricting sodium and fluid in the diet and daily physical activity (Horsley, 2010, pp. 658-659).

Providing weight scales appears to be an effective intervention. Baylor Health Care System received a grant from their foundation to purchase weight scales for HF patients. The HF clinics then reduced HF readmissions by 50 percent. Staff taught patients the importance of daily weight monitoring and guidelines on how to manage weight gain in order to prevent HF exacerbation ("Congestive Heart Failure Clinics Reduce Costly Readmissions", 2009). The health insurance provider Aetna identified the cost of care for HF readmission is $80,000 per patient. In order to improve the quality of life for HF patients, Aetna currently provides HF patients with weight scales for daily weight monitoring. Aetna has reported a 43% percent reduction in HF readmission with the provision of weight scales to CHF patients (Bertolini interview, November 21, 2012). As is often the case with field studies, the intervention of providing weight scales was confounded with education about the importance of weight monitoring. The hypothesis for this study is:

The provision of weight scales to HF patients will reduce readmission rates.

Understanding the impact of providing weight scales represents the kind of insight that a doctor of nursing practice (DNP) can bring to public health. The three most relevant essentials of DNP education that apply to this study are (1) clinical scholarship and analytical methods for evidence-based practice, (2) clinical prevention and population health for improving the nation's health, and (3) advanced nursing practice. Clinical scholarship and analytical methods for evidence-based practice is the translation of research into practice to guide improvements in practice and outcomes for HF patients. Clinical prevention and population health for improving the nation's health is improving the health status of HF patients. Advanced nursing practice

improves the nurses' ability to combine education with practice to provide specialize care to the HF patient (http://www.aacn.nche.edu). The educational foundation these essentials provide will enable the DNP to establish innovative evidence-based practice, which will improve the quality of life for HF patients.

CHAPTER II. Heart Failure Guidelines and Theory of Self-Care

Chapter two will review the few studies that investigated the effect of the use of weight scales in the treatment of HF and the theoretical framework of Dorothea Orem.

In reviewing the literature through EBSCOhost using CINAHL, the search was focused by reviewing all text and English only articles. The following key word was used "heart failure". The initial results were 14, 400 articles published between 2008 and 2012. The subject of heart failure was found to be very broad and well-researched. Revising only the year to 2012 narrowed the search and this change yielded 933 articles. The key words were then changed to "HF" and "daily weights" and the results were 61 articles. The abstract of the 61 articles were reviewed to see if the studies specifically examined the use of weight scales for HF patients. The literature review revealed there were not many published research reports found on the specific topic of the use of weight scales to decrease the rate of readmission for HF patients. As an update to the literature review conducted in 2012 the same key words were reran to see if any new articles were published on this topic. The keyword "heart failure" yielded 16, 495 articles published between 2008 and 2012, about two thousand more articles. In 2012, 884 articles were published for the keyword "HF", which are forty nine fewer articles possibly because some articles may have been removed. Finally, for the keywords "HF" and "daily weight" 65 articles were published, which is about the same from the original search. This chapter will review the selected literature on heart failure management and outcomes specific to the use of weight scales. It will also discuss the theoretical framework guiding this study.

Daily weight monitoring is included in the guidelines from ACCF and AHA. Evidence suggests in order for HF patients to successfully accomplish daily weight monitoring, patients need to own a weight scale and educated on the proper use of the weight scale and what actions

to take for fluid retention. “Close monitoring of patient weight has been shown to decrease the need for hospitalization, thus improving patient quality of life and decreasing the burden of this disease on the healthcare system” (Suh et al., 2010, p. 1).

In 2009 the American College of Cardiology Foundation (ACCF) and the American Heart Association (AHA) introduced a new set of guidelines for HF hospitalized patients. As they updated their 2005 guidelines for the Diagnosis and Management of Chronic Heart Failure in the Adult, they added a new section for the hospitalized patient. This was done based on recent trial data and other clinical information (Horsley, 2010, p. 654). The new guidelines discussed medication reconciliation for every patient and adjusted appropriately on admission and discharge from the hospital. A comprehensive written discharge for all HF patients with emphasis on the six aspects of care. The six aspects of care are diet, discharge medications, activity level, follow-up appointments, actions to take if symptoms worsen, and daily weight monitoring (Packard, Lenz, & Destache, 2010, p. 1).

Newer still, the 2013 ACCF/AHA Practice Guideline for the management of HF includes weight monitoring for the assessment of volume status. Volume status should be assessed at each patient visit with the assessment of serial weight monitoring (Yancy et al., 2013, p. 1817). Supporting the theoretical framework chosen for this study, the guidelines discuss education to facilitate heart failure self-care (Yancy et al., 2013, p. 1821). Along with weight monitoring, the recommendation for heart failure management also includes fluid restriction, sodium restriction, exercise, and the classes of medication all qualified heart failure patients will be given. The recommended classes of medication for heart failure patients are diuretics, beta-blockers, angiotensin-converting enzyme inhibitors (ACEI), angiotensin receptor blockers (ARB),

aldosterone antagonists, and digoxin. The goal of medication therapy is to reduce fluid retention to improve cardiac output and reduce morbidity and mortality.

There are articles published presenting wireless technology and their use to the HF population. Insurance companies are working with wireless companies on programs for their HF patients. One such program is a pilot program with Anthem Blue Cross of California and Ideal Life. Ideal Life is providing wireless body weight scales to HF patients of Anthem Blue Cross. The goal of the program is to efficiently triage patients and prevent costly and unnecessary emergency room visits and hospitalizations. HF patients weigh themselves daily on the scale and their weights are sent to a data center for their health care team to review and intervene if necessary. Ideal life conducted a study in which they found a compliance rate of 99.5 percent with HF patients who used their weight scale. The conclusion from their study was a savings of 7 to 1 return on their investment (Dolan, 2010, pp. 1-2).

Another example of this technology was the weight and activity with blood pressure monitoring system (WANDA B.) uses Bluetooth weight scale, a blood pressure monitor, WHI PAM (Personal Activity Monitor), NIDA, and WHI's SMS System to monitor heart failure patient activity and provide guidance in care (Suh et al., 2010, p. 4). Although providing weight scales is not the only approach, it is the simplest and least expensive way to address the readmission rate problem, and it has the advantage of being grounded in a well-developed theoretical framework.

Theoretical Framework

Dorothea Orem's self-care theory was the theoretical framework guiding this study. Orem (2001) says, "self-care comprises the practice of activities that maturing and mature persons initiate and perform, within time frames, on their own behalf in the interest of

maintaining life, healthful functioning, continuing personal development, and well-being by meeting known requisites for functional and developmental regulations" (Alligood & Tomey, 2010, p. 269). Within the theory of self-care, there are three self-care requisites: universal self-care requisites, developmental self-care requisites, and health deviation self-care requisites. Self-care requisites are defined as "expressions of purposes to be attained, results desired from deliberate engagement in self-care. They are the reasons for doing actions that constitute self-care" (Tomey, 1994, p. 183). The requisites for universal self-care are activities of daily living, such as breathing, eating, drinking, and engaging in appropriate social interactions. The major requisite for developmental self-care is the ability to adjust to change. Finally, the major requisite for health deviation self-care is the ability to carry out medically necessary self-care (pp. 183-184). The HF patient has a chronic disease, which does require a life change.

The theory of self-care relates to this study because of its emphasis on the care of the individual. "Self-care must be learned, and it must be performed deliberately and continuously in time and in conformity with the regulatory requirements of individuals" (Alligood & Tomey, 2010, p. 274). The ability of the HF patient to use the weight scale for daily weight monitoring is crucial to acceptance and management of this chronic disease. In order to reduce readmission rates "early assessment of clinical deterioration and close monitoring of signs and symptoms of congestion are critical in the post-discharge period" (Gheorghiade, Vaduganathan, Fonarow, & Bonow, 2013, p. 397).

Consequently, the purpose of this study was to evaluate with the provision of weight scales an effort to decrease HF hospital readmission rates. Early recognition of symptoms and informing their heart failure team will allow for medication adjustment to be made and prevention of a hospital readmission. According to "Winstead-Fry (1986) maturing or mature

persons contribute to the regulation of their own functioning and development and to the prevention, control, or amelioration of disease and injury and their effects by performing within the context of their day-to-day living, learned actions directed to themselves or their environments that are known or assumed to have regulatory value with respect to human functioning and development" (Parker, 1990, p. 50). The provision of weight scales holds the patient responsible for their care by weighing themselves daily at the same time of the day. Self-care helps patients recognize gradual weight gain and become proactive in contacting their heart failure team.

The critical information that weight scales provide is related to fluid retention. According to Crowther (2012), identifying the importance of daily weight monitoring to the HF patient will increase patient awareness of fluid retention. Patient education related to fluid retention is especially important for the HF patients' daily self-care regime, which includes daily weight monitoring. HF patients who can provide self-care will have increased patient satisfaction and improved quality of life (Crowther, 2012, pp. 2-3). Also, Moser et al. (2012) examined the role of self-care for CHF patients. Stating that optimal outcomes and quality of life for HF patients depends on self-care activities. The authors identified daily weight monitoring as one of the self-care activities, citing that readmissions can be decreased if self-care for HF patients was the standard of care (pp. 272-273).

The AHA has also recognized the importance of self-care in HF patients. In a systematic review of the effect of self-care interventions on outcomes, Jovicic et al., found a decrease in HF readmissions related to self-care actions (Riegel et al., 2009, p. 1153). The AHA identified self-care as following health care provider orders with medication adherence, low-sodium diet, exercise, and actively monitoring for sign and symptoms of HF exacerbation (Riegel et al., 2009,

p. 1141). The authors of this paper acknowledge that patients perform self-care by recognizing a change (observing for edema), evaluating the change, taking action, implementing treatment by taking an extra dose of diuretic, and evaluating for improvement with reduced symptoms and decreased weight after treatment. (Riegel et al., 2009, p. 1141). Fewer than half of HF patients weigh themselves daily and HF patients who do weigh themselves do not consider weight gain a problem (Riegel et al., 2009, p. 1141). The misconception is HF patients assume gaining weight is related to fat instead of fluid retention and not correlating symptoms such as edema and shortness of breath to weight gain (Riegel et al., 2009, p. 1142). The recommendation for future research from this study indicated "accurate and consistent methods of symptom monitoring need to be developed" (Riegel et al., 2009, p. 1154). In short, the literature indicates that providing weight scales along with education is an inexpensive way to achieve significant health improvements at a very low cost.

CHAPTER III. Method

Chapter three will cover the hypothesis and design, sample, recruitment of subjects, human subject protection, setting, procedure, data collection, data analysis, and data protection.

HYPOTHESIS AND DESIGN

Research hypothesis: Providing weight scales to HF patients will reduce readmission rates.

Null hypothesis: There will be no difference in readmission rates for patients with HF between the intervention (weight scale group) and non-intervention group (non-weight scale group).

This initial design was a quasi-experimental quantitative study of an intervention that used previously collected data from two acute care hospitals in New Jersey. One had a HF discharge program that provided HF patients with weight scales (Hospital A); the other did not provide weight scales but staff of both hospitals provided standard HF discharge instructions including what to do if weight gain occurs (Hospital B). The only difference in discharge planning would be the provision of weight scales between groups. Hospital A had a small sample size of N= 28 in their pilot, so in order to continue with the comparative two-group design using matched groups only 28 charts were requested to be reviewed at Hospital B. When the nursing research committee at Hospital B reviewed the proposal they decided this was not an adequate sample size to conduct a study and did not give institutional review board (IRB) approval. However, they did approve the study as a performance improvement/ Evidence-Based Project (EBP) and would allow their patients charts to be reviewed. The approval as a performance improvement/ EBP does not generate any legal documentation as to the content of the study and the study timeframe. Hospital A gave IRB approval but would only allow charts reviewed during the pilot period of July 21, 2012 to April 18, 2013. This setback prompted an emergency meeting with the dissertation committee and the decision was made to change the entire sample set to patients

at Hospital A. The IRB application was amended to reflect review of additional charts and IRB approval was given. The IRB application was also amended at William Paterson University to review additional charts (Appendix C). Hospital B was notified of the decision not to pursue data collection at their institution. The data of interest at Hospital A were the readmission rates of HF patients who received weight scales (weight scale group) and it was compared to HF patients who did not receive weight scales (non-weight scale group) during the pilot period. Hospital A provided HF patients who had frequent readmissions with weight scales, education on medication, diet, exercise, follow-up appointment with their heart failure team and the proper use of weight scales.

SAMPLE

The purposive sample of fifty patients had their charts reviewed to determine readmission within thirty days of being discharged for HF exacerbation. "Purposive sampling is the selection of individuals who the researcher believes will be good sources of information" (Patten, 2012, p. 51). The purposive sampling method was selected for this study because only charts of HF patients admitted during the pilot period were being reviewed for the information needed for this study. The demographic information obtained were age, gender, level of education, co-morbidities, and weight at admission and discharge in kilograms. The inclusion criteria were HF patients admitted during the pilot period of July 21, 2012 to April 18, 2013. The exclusion criteria were charts not in the pilot time frame.

RECRUITMENT OF SUBJECTS

This was a retrospective chart review so the researcher did not have contact with any patients. The time period of the charts reviewed were from July 21 2012 to April 18th 2013.

HUMAN SUBJECT PROTECTION

Initial IRB was approved on January 27, 2014 by William Paterson University and from Hospital A on March 14, 2014 (Appendix B). The amended IRB was approved on April 1, 2014 from William Paterson University and on April 2, 2014 by Hospital A (Appendix C).

The researcher obtained CITI human subject certification on September 7, 2012 from William Paterson University.

DATA PROTECTION

Data were stored on a USB drive dedicated to this study. Data were de-identified prior to analysis. The USB is kept locked in a cabinet at William Paterson University Doctor of Nursing Practice office.

SETTING

An acute care facility in New Jersey with a discharge HF weight scale program. This hospital is a 478-bed teaching acute care facility located in Central Jersey. It has been in this community for over one hundred years. It is a non-profit Magnet organization.

The heart failure initiative committee at Hospital A developed a pilot discharge HF weight scale program in July 2012. Their pilot study was conducted from July 21, 2012 to April 18, 2013. The pilot was initiated on their telemetry unit. HF patients admitted to the telemetry unit were assessed by staff nurses for the need of a weight scale based on an assessment tool created by the HF initiative committee. The assessment tool asked the following questions, do you own a weight scale?; are you able to read the numbers on the scale?; can you afford to purchase a scale?; and would you like to receive a scale from Hospital A (Appendix E)? HF patients identified as having a need for a weight scale were then given a weight scale purchased by the Care Coordination department at the hospital. The HF patients were given education on heart

failure care, which includes low salt fluid restricted diet, exercise, taking medication daily by the staff nurse. Patient education also included, the proper use of the scale by teach-back (after being educated by the nurse, patient had to verbally explain to the nurse at what time of day they would weigh themselves, demonstrate proper use of the scale, and documentation of weight in a journal) and the heart failure team which consisted of a medical doctor (MD), Advanced Practice Nurse (APN), Registered Nurse (RN), pharmacist, dietician, care coordinator, social worker, and physical therapist scheduled a follow-up appointment, before discharge, and their discharge packet had additional HF information. The additional HF information consisted of an action plan of when to contact the HF team, a starter weight chart, list of important phone numbers (pharmacy, emergency contact, and hospital), and information on their current medicines including potential side effects. Twenty-eight scales were given during the pilot period of July 21, 2012 to April 18, 2013.

PROCEDURE

A retrospective chart review was conducted at Hospital A on patients admitted during the pilot dates of July 21, 2012 to April 18, 2013. A variable form was created to ensure standardization of collection of the data. The variables were collected to assess the causes for readmission (Appendix A). The charts of HF patients who both received weight scales and did not receive weight scales were reviewed to determine if they were readmitted 30-days post discharge. Once all the charts of the pilot HF patients were reviewed, the researcher reviewed the charts of HF patients who did not receive weight scales but were admitted during the same month and year of the weight scale group (WSG). This created the sample of the non-weight scale group (NWSG).

DATA COLLECTION

The demographics obtained were age, gender, level of education, co-morbidities, weight at admission and discharge, and insurance provider from Hospital A.

Dates of discharge and readmission were also reviewed.

Additional variables collected were weight scales given, class of medications, daily weight, diet, exercise, creatinine level, Ejection Fraction, and follow-up appointments, (Appendix A).

DATA ANALYSIS

Descriptive statistics analyzed the data to determine any baseline population differences between the weight scale group and the non-weight scale group. Independent-samples *t* test evaluated the difference between age, weight at admission, weight at discharge, taking daily weight, ejection fraction, creatinine level, level of education, and co- morbidities between the weight scale group and the non-weight scale group. The data was analyzed at William Paterson University. IBM SPSS 19 Software was used for data entry and analysis.

The goal of this study was to compare the readmission rates by average days from discharge to readmission between heart failure patients who were provided weight scales (WSG) and those who did not receive weight scales (NWSG). The sample of patients for this study was not a matched group design. However, all patients had a primary discharge diagnosis of HF. The provision of weight scales was the only difference in their discharge planning.

CHAPTER IV. Results

Chapter 4 presents the results of the data collection on the purposive sample of fifty HF patients. Data from twenty-five HF patients who received weight scales (WSG) were compared to twenty-five HF patients who did not receive weight scales (NWSG) from Hospital A.

Research Question: The research question this data sought to answer was:

Did the provision of weight scales for heart failure patients lower readmission rates?

This quasi-experimental quantitative study evaluated data from Hospital A's pilot weight scale program, evaluating differences in readmission rates and demographics between the two purposive study samples (WSG and NWSG).

Sample:

The intended sample for this study was fifty patients but due to missing data the purposive sample (n = 47) consisted of patients who were participants in Hospital A's discharge HF weight scale program. The pilot participants who were identified for provision of weight scales (WSG), were chosen by the telemetry staff nurses (n = 22), who were guided by an assessment tool (Appendix E). Twenty-eight scales were distributed to patients, however only twenty-two were documented for the pilot project. The comparison group (NWSG) subjects were chosen from a total of 61 patients who were readmitted during the pilot project period of time with a total of twenty-five being readmitted in the pilot project month and year (n = 25).

Demographics:

Demographics of interest in comparing the two groups were age, gender, level of education, co-morbidities, weight at admission and discharge, and insurance provider. Dates of discharge and readmission were also analyzed. Additional variables collected were weight scales given, class of medications, daily weight, diet, exercise, creatinine level, ejection fraction, and follow-up

appointments. If our sampling procedure was effective, then the two groups would be similar on all these variables.

Weight: The data from the sample (n = 47) were tested for normal weight distribution at admission and discharge and was found to be normally distributed (Charts 4.1 and 4.2). Mean weight at admission was 84.54 kilograms (kg) and at discharge was 81 kg. The difference between the admission and discharge weights were not significant. Admission Weights: (t(45) = .2.807, $p > .05$) Discharge weights (t(45) = 2.788, $p > .05$).

Chart 4.1 Admission Weight

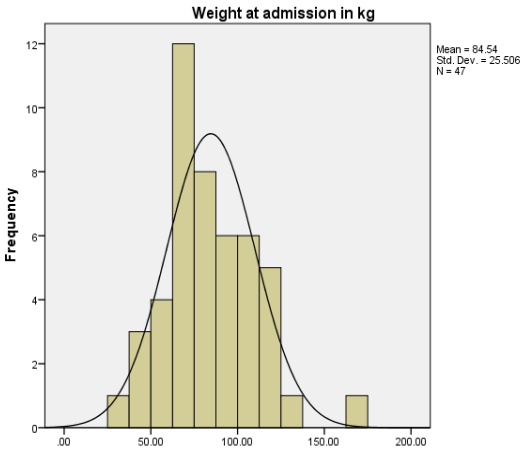
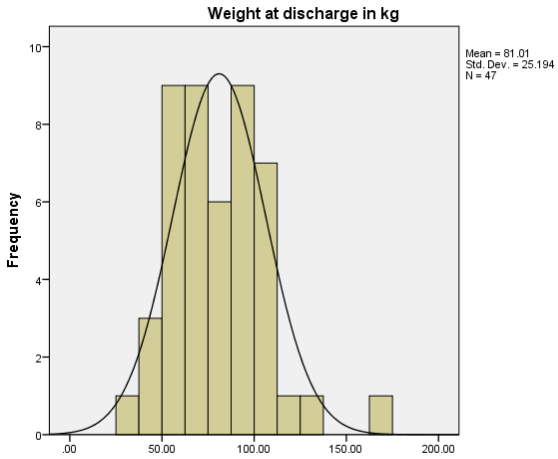


Chart 4.2 Discharge Weight



Weights by group: *Admission weights:* The mean admission weight for the WS group was 94.92 kg and 75.4 kg for the NWS group. An independent-samples t test comparing the mean scores of the two groups found a significant difference (t(45) = 2.807, p = .007). The mean weight of the NWS group was significantly lower than the mean weight of the WSG. *Discharge weights:* The mean weight for WS group at discharge was 91.28 kg and the mean weight for the NWS group was 72.03 kg. A significant difference between the groups was indicated at discharge (t(45) = 2.788, p = .008), indicating that the WS group was significantly heavier at

discharge than the NWS group. The weight loss between groups was not significant, approximately three kilogram from admission to discharge.

Age: Median age for the overall sample (n = 47) was approximately 71 years, with the youngest participant 29 years old and the eldest 93. An independent-samples *t* test comparing the ages of the participants from the WS group and those from the NWS group was computed. A significant difference was found between the mean ages of the group ($t(45) = -4.122$, $p = .000$) The mean age of the WS group was significantly lower ($m = 61.41$, sd = 15.741) than the mean age of the NWS group ($m = 78.60$, sd = 12.842).

Gender: The sample for this project (n = 47) included 58% more females (29) then males (18). The distribution in the WS group was approximately equal, with 12 women and 10 men, and the NWS group had 8 men and 17 women. An independent-samples *t* test evaluated any difference between the readmission rate based upon gender. No significant difference was found ($t(45) = .122$, $p > .05$). The mean of the rate of readmission by days for females (m = 8.90, sd = 10.752) was not significantly different from the mean of the males (m = 9.28, sd = 9.797).

There was no significant difference in readmission rates based upon gender. The weight of the sample was not adjusted to reflect males tend to weigh more than females, because the design of this study did not match based on gender.

Level of education: The mean education level for the sample that was willing to answer the question was high school to some college. Fifteen of the 47 participants declined to answer the level of education question. (WSG (7), NWSG (8)), Level of education did not impact the days from discharge to readmission data. ($t(24) = .673$, $p > .05$) .

Co-morbidities: The two groups (WSG and NWSG) were not significantly different in the number of comorbidities ($t(45) = -.803$, $p > .05$).

Insurance provider: Independent-samples *t* test were used to evaluate if there were significant differences between the groups related to Insurance providers. No significant difference were found ($t(45) = .482$, $p > .05$). The majority of HF patients in this sample 62% were enrolled in Federal insurance (Medicare or Medicaid) including the youngest participant (Table 4.3).

Table 4.3 Type of Insurance

Type of Insurance

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	commercial	12	24.0	25.5	25.5
	federal	31	62.0	66.0	91.5
	charity care	3	6.0	6.4	97.9
	combination	1	2.0	2.1	100.0
	Total	47	94.0	100.0	
Missing	System	3	6.0		
Total		50	100.0		

Medication: The data were evaluated to determine if the patients were on the recommended medications indicated for HF management. Twenty-three of the 47 participants were on the recommended medications. No significant difference between groups on taking the recommended medications were was identified (WSG = 12, NWSG = 11).

Daily Weight: Participants self–reported whether or not they took a daily weight when at home. Seventy-two percent of the participants reported taking their weight at home. When an independent-samples *t* test was run to determine if there were a significant difference between the groups in patient monitored daily weights, a significant difference ($p = .000$) was determined. All of the WS group (n = 22) reported taking their daily weights compared to half of the NWS group (n = 12). When comparing the groups related to self-report of daily weight management, a significant difference ($t(45) = -4.77$, $p = .000$).

Diet: Participants self-reported whether they followed the recommended 2 gram sodium, fluid restricted diet. Only 4.3 % of the participants (n = 47) followed the recommended diet, 15% used the sodium restricted diet, 21% of the participants reported that they followed a "cardiac" diet (low fat low cholesterol). Sixty percent of the participants indicated that they did not follow any of the diets for heart disease. There was no significant differences between the diets reported in the two groups.

Exercise: The majority of the sample (81%) reported not participating in any form of physical activity. The difference between the WSG and NWS group in physical exercise were indicated ($t(45) = .230$, $p = .056$) An independent-samples *t* test was calculated to determine if age was a significant factor in engagement in physical exercise, as the two groups were significantly different in age distribution, with the NWS group older than the WS group. No significant difference between physical exercise and age was indicated ($t(43) = -.191$, $p > .05$).

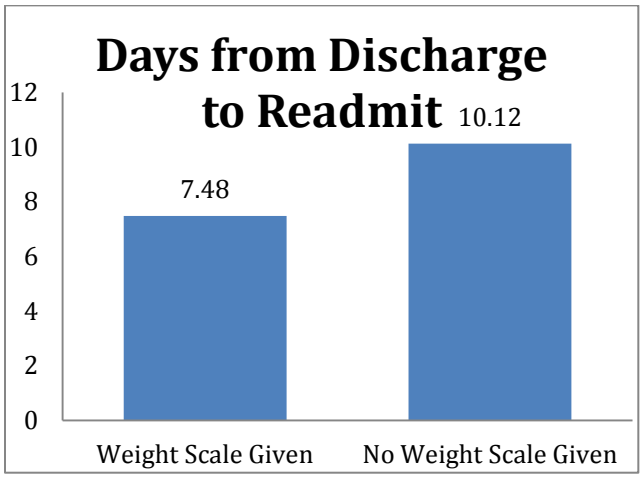
Follow-up Appointment: Sixty-six percent of the participants indicated that a follow-up appointment was scheduled. An independent-samples *t* test examined whether there were a significant difference in scheduling follow-up appointments between the two groups. A significant difference was determined to exist between the groups on this variable ($t(45) = -1.644$, $p = .002$). Follow-up appointments were made for eighteen of the 22 WSG participants, and 15 of the NWSG participants. Eighteen percent WSG participants (n = 4) reported no follow-up appointment, compared to 40% of the NWSG participants (n = 10).

Readmission Variables:

Average days to readmission: The average number of days to readmission for the sample was nine days. An independent-samples *t* test comparing the mean number of days from discharge to readmission between the WS group and the NWS group was calculated. A significant difference

between the means of the two groups was found ($t(45) = -.889$, $p = .003$). The mean days to readmission of the WS group (m = 7.48, sd = 13.187) was significantly lower than that of the NWS group (m = 10.12, sd = 6.585), (Chart 4.4).

Chart 4.4 Mean Days from Discharge to Readmit



Ejection Fraction: The mean ejection fraction for the sample (n = 46) was 47.65 (min 14, max 70). One chart was missing the documentation for the ejection fraction. There was a significant difference between the WS and NWS group in ejection fraction ($t(44) = -2.449$, $p < .05$) . The mean ejection fraction for the NWS group was significantly higher than the mean ejection fraction of the WS group.

Discharge Creatinine Clearance (CC): Frequencies for the creatinine clearance was indicated by normal, abnormal and no access. Fifty-five percent of the participants had normal CC levels. There was no significant difference between the groups on discharge CC ($t(45) = -.379$, $p > .05$).

Summary: Significant differences were determined between the groups on age, weight at admission and discharge, and days from discharge to readmission. Also, significant was the number of subjects not adhering to the recommended diet and physical activity regimens in both groups. Finally, there were significantly fewer NWS participants provided with follow-up appointments than WS participants.

Chapter four presented the data collected on the sample from Hospital A's discharge HF weight scale program.

CHAPTER V. Analysis

This chapter will provide an analysis of the findings, limitations of the study, and recommendation for future studies. This study was conducted to evaluate the outcomes of reducing 30-day readmissions with the provision of weight scales to HF patients. The goal of this study was to see if the provision of weight scales improved self-care behaviors and reduced readmission rates in the WSG. The literature supports daily weight monitoring along with education, the correct class of medications, diet, and exercise. However, the health care community; continues to see the HF patients returning to the hospital for exacerbation of their symptoms. Hospital A provided some HF patients identified as having no home weight scales with weight scales to take home, education on the proper use of the scale along with standard HF education, discharge instructions, and scheduled a follow-up appointment with their HF team. A comparison group of patients not provided with weight scales received all other above-mentioned intervention.

The research hypothesis for this study was:

Provision of weight scales to HF patients will reduce readmission rates. The results of this study did not support the research hypothesis but found that the patients who received weight scales were readmitted sooner than the patients who did not receive weight scales.

The null hypothesis was:

There will be no difference in readmission rates for patients with HF between the WSG and NWSG.

This hypothesis was not supported because this study found that the patients who were given weight scales were readmitted sooner.

In reviewing the literature, there was a paucity of data in the evidence regarding the specific topic of the provision of weight scales by hospital staff to decrease the rate of readmission for HF patients. "Patients are often instructed to weigh themselves daily, maintain documentation of weight changes, and use a flexible diuretic regimen based on weight changes. There is some indication that this practice can decrease hospitalizations but studies are limited" (Shah, Rahim, & Boxer, 2013, p. 443). However, literature that was found and reviewed identified a link between weight scale use with decreasing readmission rates. This study did not find the same link, the opposite was found. Patients who were given weight scales were found to be readmitted sooner.

When reviewing the other variables that were collected for this study, participants in the WSG were more likely to have a follow-up appointment made for them before discharge from the hospital and received discharge instructions. Follow-up appointments did not seem to impact the WSG in this study from returning to the hospital. "While emerging outpatient care strategies (eg, early follow-up visits after discharge and early follow-up phone calls) are seen as promising strategies to reduce readmissions, more evidence is needed to support their integration into standard of care practice across the health care continuum" (Bowers, 2013, p. 641). The data also showed the patients in the weight scale group had better documentation of receiving discharge instructions. One can infer that the education on discharge instructions gave the HF patient additional awareness of their symptoms, which caused them to seek treatment and be readmitted sooner. A study conducted by White et al. (2013) which studied the teach-back method on hospitalized HF patients to see if it was associated with lower readmission rates, found that the teach-back method was an effective method to use for education and to assess learning. But there are no associations with lower HF hospital readmissions.

Additional results for this study found that patients in the WSG were more complaint with taking their daily weight, indicating that they were more aware of their gradual weight gain and the need to call their HF team. Alternative explanations for earlier readmission rates for those in the WSG might include: a) If they did call their HF team, maybe the recommendation of the HF team was to go to the hospital for medical management instead of setting the patient up with an office appointment; b) perhaps the physician office hours were booked, the office does not have the equipment, medications or support to provide urgent care in the office and directed the patient to emergency room; c) finally, maybe the patient panicked and went to the emergency room instead of contacting their HF team.

The results also showed additional information about the WS and NWS group. The NSWG had a significantly better ejection fraction than the WSG. The WSG consisted of patients with weaker hearts. In addition, the WSG was found to be younger and heavier than the NWSG. These variables can also give some indication as to why the WSG returned to the hospital sooner, as they were a younger group of patients who retained more volume of fluid because of their weaker hearts.

The variables that did not impact the results of this study for either group were gender, level of education, co-morbidities, insurance provider, medication, diet, exercise, and discharge creatinine clearance. Both the intervention and non-intervention group had no significant differences between these variables. However, it was noted both groups were non-complaint with the 2013 recommendation of ACCF/AHA HF practice guidelines of fluid and sodium restricted diet and daily exercise. Reviewing all the variables in this study, it is clear the weight scales did not impact the readmission rates for the WSG or the NWSG, there are some many other factors

to consider before an assumption can be made for the use of weight scales in reducing readmission rates.

Implications of the results:

This study could not establish the use of weight scales in reducing thirty-day readmissions. This study found there are several factors, which does contribute to HF patients being readmitted sooner. The design of this study did not lead to any statistical conclusions about those factors. This study has shown further nursing research is needed for this topic.

Limitations:

Methodological Problems

The original design of the study was to compare two acute care facilities, a hospital which provided with weight scales to a hospital, which did not provide weight scales. Many factors contributed to the failure of the original design. The first contributing factor was the small sample size, which prompted Hospital B not to give IRB approval. The second contributing factor was the inability to review data prior to the pilot start date at Hospital A. In addition, the size of the two hospitals were not comparable, Hospital A was 478 bed facility and Hospital B was a 700 bed facility and would probably cause any data results to be skewed.

The new research design looked at data from one institution with the intent of getting better results. The researcher's goal for this study was to show the impact weight scales had in the reduction of readmission rates as was discussed in the literature review section. The design of this study precluded randomization of the patients. The retrospective approach was found to be a limitation because the researcher was not the one who collected the data. The approach to data collection was not inclusive of all the heart failure patients who received weight scales

during the pilot period. Data were found to be missing and the researcher had no ability to retrieve any missing information.

This study was not ideal because of its small sample size. Since this was a review of data from a pilot study, the sample size was not a true indicator of the heart failure admissions during that time frame. The sample size of n = 47 was not generalizable to much larger healthcare institutions.

Recommendations:

Future studies should be done with a better design to evaluate the potential impact weight scales may have in the reduction of thirty-day readmissions. A qualitative interview design to understand what HF patients think; may help reduce 30-day all cause readmissions. Alternatively, a prospective quantitative study with more subjects who are randomized to WSG versus NWSG, with subjects matched would be desirable. Perhaps, the staff nurses participating in the study could receive more education on the proper documentation of data, so all the data would be present to retrieve and analyze. Questions regarding the extent of discharge education are needed to see if it emphasizes follow-up with the HF team before going to the hospital emergency room. It should compare weight scales to a tool like the LACE index, created for the reduction of 30-day readmissions to evaluate the impact of weight scales, which stands for length of stay, acuity of admission, patient comorbidity, and number of visits to the emergency room. The tool was "developed by researchers at the Ottawa Hospital Research Institute, Institute for Clinical Evaluation Sciences, University of Toronto, University of Ottawa and University of Calgary to help quantify the risk of early death or unplanned readmission after discharge from hospital to the community and can be useful in focusing post-discharge support on patients at highest risk of poor outcomes" (http://sciencedaily.com).

Conclusion:

The ability to conduct successful evidence-base research is important to contribute to the field of nursing. As evident with this research study, conducting research is not easy. Being able to collect data to produce significant results is the goal. The design of any study must be clear and precise because as this study has proven many factors can contribute to its failure. Despite its many challenges this study evaluated the impact of weight scales for HF patients and found it can be a useful tool but is does not solve the problem of readmission prevention. It is clear continued nursing research with strong designs are needed to help reduce thirty-day readmission of HF patients.

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APPENDICES

Appendix A

Variables Form

Variables:

Demographics:

Age

Gender

Level of Education

Co-Morbidities

Weight at Discharge

Insurance Provider

Independent Variables:

Weight Scale

Medication

Daily Weight

Diet

Exercise

Follow-up appointment

Dependent Variables:

Discharge Date

Readmission Date

Appendix B

IRB

THE WILLIAM PATERSON UNIVERSITY OF NEW JERSEY
INSTITUTIONAL REVIEW BOARD FOR HUMAN SUBJECT RESEARCH

c/o Office of Sponsored Programs
Raubinger Hall, Room 309
973-720-2852 (Phone)
973-720-3573 (Fax)
http://www.wpunj.edu/osp/

Chair: Professor Michael Figueroa (FigueroaM@wpunj.edu)
College of Science and Health
Contact: Martin Williams (williamsm@wpunj.edu)
Office of Sponsored Programs

To: Sandra Denise Thebaud-Young
Doctor of Nursing Practice Program, Department of Nursing

From: Martin B. Williams Martin B. Williams

Subject: IRB Approval (Exempted Review)

Study: Protocol # 2014-325: Weight Scales: Do They Impact Heart Failure Recidivism?.

Date: January 27, 2014

The IRB has APPROVED the above study involving humans as research subjects. This study was approved as: Category: Exempted; vulnerable population: None.

IRB Number: 2014-325 This number is WPU's IRB identification that should be used on all consent forms and correspondence.

Approval Date: 01/27/2014
Expiration Date: 01/26/2015

This approval is for one year. It is your responsibility to insure that an application for continuing review approval (WPU IRB Form Appendix D) has been submitted before the expiration date noted above. If you do not receive approval before the expiration date, all study activities must stop until you receive a new approval letter. There will be no exceptions. In addition, you are required to submit an Appendix D form at the conclusion of the project. The WPU IRB will accept a report submitted to another office or agency (i.e. ART report) in lieu of the narrative report of progress attachment to Appendix D. The Appendix D can be accessed at: http://ww3.wpunj.edu/osp/ .

Consent Form: All research subjects must use the approved Informed Consent Form. You are responsible for maintaining signed consent forms (if approved for Active Consent format) for each research subject for a period of at least three years after study completion.

Mandatory Reporting to the IRB: The principal investigator must report immediately any serious problem, adverse effect, or outcome that is encountered while using human subjects or any complaints from your subjects. In addition, the principal investigator must report any event or series of events that prompt the temporary or permanent suspension of a research project involving human subjects or any deviations from the approved protocol using Appendix D.

Amendments/Modifications: You are required to carry out this research as described in the protocol. All amendments/modifications of protocols involving human subjects must have prior IRB approval, except

[redacted]

March 14, 2014

Sandra Thebaud-Young, DNPc
[redacted]

Dear Dr. Thebaud-Young:

Concerning the following Study:

CPHSR Study # 14:06

Protocol Title: Weight Scales: Do They Impact Heart Failure Hospital Recidivism?

As Chairperson of the Institutional Review Board of S[redacted]l, Committee for the Protection of Human Subjects in Research (CPHSR), I have reviewed your proposal ***Weight Scales: Do They Impact Heart Failure Hospital Recidivism?*** on an expedited basis. Your study qualifies under Federal Code of Regulations 45 CFR 46 101(b) (4); Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects.

It is my opinion that since the data derived from your retrospective chart review will be compiled and analyzed anonymously and no information pertaining to any particular patient will be generated, a consent form is not required. Your study is therefore approved for Exempt review and you may commence with the project as of this date.

If no changes are made, studies given Exempt status are excused from further IRB review. If you plan to continue research past the expiration date of **3/13/2017**, continuing review and approval from the Committee for the Protection of Human Subjects in Research is required. Any data collected, or research activities conducted without CPHSR approval is non-compliant with both institutional and federal regulations.

Sincerely,

David Alcid, MD
Chairperson
Committee for the Protection of
Human Subjects in Research

[redacted]

Appendix C

Amended IRB

Good Afternoon Mr. Williams,

I am requesting a modification to my current IRB. I would like to review additional charts at both hospitals to validate my findings. I am able to review up to 50 Charts at Hospital A and up to 1500 Charts at Hospital B.

Please let me know what steps to take to change my current IRB.

Thank you,

Sandra Thebaud-Young, ANP-BC, DNPc

Sandra Thebaud-Young, ANP-BC, DNPc

Sandra:

This change is approved.

Best wishes for continued success with your research.

Martin Williams
IRB Administrator
Director, Office of Sponsored Programs
William Paterson University
Wayne, NJ 07470
973-720-2852; fax: 973-720-3573
mailto:williamsm@wpunj.edu; http://www.wpunj.edu/osp

[redacted]

Wednesday, April 02, 2014

Sandra Thebaud-Young, DNPc
[redacted]

Dear Dr. Thebaud-Young:

Concerning the following study:

Our Study # 14:06

Protocol Title: Weight Scales: Do They Impact Heart Failure Hospital Recidivism?

As Vice-Chairperson of the Institutional Review Board of S[redacted] Committee for the Protection of Human Subjects in Research (CPHSR), I have reviewed on an expedited basis, the application for amendment to the Exempt study ***Weight Scales: Do They Impact Heart Failure Hospital Recidivism?,*** requesting approval for an increase in the number of charts to be reviewed.

All requirements as set forth by the CPHSR have been fulfilled and I am pleased to advise that I have approved your amendment request for ***Weight Scales: Do They Impact Heart Failure Hospital Recidivism?,*** and the increase to fifty (50) in the number of charts to be reviewed for this study is permitted. You may commence with the project as of this date.

If no further changes are made, this study is continued excused from further IRB review. If you plan to continue research past the expiration date of **3/13/2017,** Continuing Review and approval from the Committee for the Protection of Human Subjects in Research is required. Any and all changes expected for this research proposal must be submitted to the CPHSR for review and approval prior to implementation. Any data collected, or research activities conducted without CPHSR approval is non-compliant with both institutional and federal regulations.

Sincerely,

Joseph DiCubellis, R. Ph., MPH
Vice-Chairperson,
Committee for the Protection of
Human Subjects in Research

cc: CPHSR Study File

[redacted]

Appendix D

CITI Certification

CITI Collaborative Institutional Training Initiative

Human Research Curriculum Completion Report
Printed on 9/7/2012

Learner: Sandra Thebaud-Young (username: thebaudyoungs)
Institution: William Paterson University
Contact Information Department: Nursing
Phone: 6094027245
Email: thebauds@hotmail.com

IRB Reference Resource:

Stage 1. Basic Course Passed on 09/07/12 (Ref # 8616515)

Required Modules	Date Completed	
Introduction	09/01/12	no quiz
William Paterson University	09/01/12	10/11 (91%)
Elective Modules	**Date Completed**	
History and Ethical Principles - SBR	09/06/12	5/5 (100%)
History and Ethical Principles	09/06/12	6/6 (100%)
Defining Research with Human Subjects - SBR	09/06/12	4/5 (80%)
The Regulations and The Social and Behavioral Sciences - SBR	09/06/12	5/5 (100%)
Basic Institutional Review Board (IRB) Regulations and Review Process	09/06/12	5/5 (100%)
Assessing Risk in Social and Behavioral Sciences - SBR	09/06/12	5/5 (100%)
Informed Consent - SBR	09/06/12	5/5 (100%)
Informed Consent	09/06/12	4/4 (100%)
Privacy and Confidentiality - SBR	09/06/12	4/5 (80%)
Social and Behavioral Research for Biomedical Researchers	09/06/12	4/4 (100%)
Records-Based Research	09/06/12	2/2 (100%)
Genetic Research in Human Populations	09/07/12	2/2 (100%)
Research With Protected Populations - Vulnerable Subjects: An Overview	09/07/12	4/4 (100%)
Research with Prisoners - SBR	09/07/12	4/4 (100%)
Vulnerable Subjects - Research Involving Prisoners	09/07/12	4/4 (100%)
Research with Children - SBR	09/07/12	4/4 (100%)
Vulnerable Subjects - Research Involving Children	09/07/12	3/3 (100%)
Research in Public Elementary and Secondary	09/07/12	4/4 (100%)

Schools - SBR		
Vulnerable Subjects - Research Involving Pregnant Women, Human Fetuses, and Neonates	09/07/12	3/3 (100%)
International Research - SBR	09/07/12	3/3 (100%)
Internet Research - SBR	09/07/12	5/5 (100%)
Avoiding Group Harms: U.S. Research Perspectives	09/07/12	3/3 (100%)
FDA-Regulated Research	09/07/12	4/5 (80%)
Human Subjects Research at the VA	09/07/12	3/3 (100%)
Research and HIPAA Privacy Protections	09/07/12	4/5 (80%)
Vulnerable Subjects - Research Involving Workers/Employees	09/07/12	4/4 (100%)
Hot Topics	09/07/12	no quiz
Conflicts of Interest in Research Involving Human Subjects	09/07/12	3/5 (60%)

For this Completion Report to be valid, the learner listed above must be affiliated with a CITI participating institution. Falsified information and unauthorized use of the CITI course site is unethical, and may be considered scientific misconduct by your institution.

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CITI Course Coordinator

Return

Appendix E

Assessment Tool

[redacted]

Patient Name

Patient Scale Questionnaire

[redacted]

1. Do you have a scale at home? If yes, go to Question 2. If no, go to Question 3.		
2. Can you read the numbers on your scale? If yes, stop here.		
3. Can you purchase a scale or can someone get a scale for you? If yes, stop here. If no, go to Question 4.		
4. If you have no way to obtain a scale for home, would you like [redacted] to supply you with a scale?		
Patient given scale from [redacted] to use at home. * If Patient is not given a scale please document why not. _____ _____ _____		

****This is not part of the medical record. It is intended for use by Care Coordination.**

RN Signature_____
Title_____
Patient Room #_____
Scale #_____

4/24/2012