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Disposition and Success of Patients Following Discharge in the Acute Setting

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DISPOSITION AND SUCCESS OF PATIENTS FOLLOWING DISCHARGE IN THE ACUTE SETTING

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A doctoral project submitted in partial fulfillment
of the requirements for the

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Ciera Cortney, Kathryn Lutjens, and Kristopher Raines

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DISPOSITION AND SUCCESS OF PATIENTS FOLLOWING DISCHARGE IN THE ACUTE SETTING

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Doctor of Physical Therapy

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ABSTRACT

Background & Purpose: Many patients are seen in the hospital by physical therapists who also help decide where the patient will go after discharge (e.g., home, rehab hospital, skilled nursing facility) with the goal being the safest and best quality of life. Therapists may use different tests and measures along with their own professional judgment to help make a recommendation for a discharge location. The purpose of this study was to examine how PT's recommendation for discharge location, POMA score, "6-clicks" score, age, diagnosis, and gender determine patient's fall/readmission status after being discharged by hospital.

Subjects: There were 113 patients in this study. The inclusion criteria for the patients were that they had to have been seen by a physical therapist in the acute care hospital, were given a physical therapist discharge recommendation, and were over the age of 18.

Methods: Data was collected from a single community hospital in the Pacific Northwest. The following data were collected: reason for patient admission to the hospital, POMA score, "6-clicks" score, the therapist's discharge recommendation, patient age, patient gender, and the actual discharge location of the patient. Approximately 30 days following discharge, the patients were contacted via telephone to determine where they went after discharge, if they were readmitted to the hospital within 30 days, or if they experienced a fall since leaving the hospital. Data were analyzed using independent t-tests, chi-square analysis, and receiver operating characteristic (ROC) curves.

Results: There were no significant differences between patients' "6-clicks" scores ($p=0.667$), POMA scores ($p=0.890$), or age ($p=0.940$) when comparing those who experienced a post-discharge fall and those that did not have a fall. No differences in "6-clicks" scores ($p=0.815$), POMA scores ($p=0.753$), and age ($p=0.735$) were found between patients' who were readmitted

and those not readmitted within 30 days of discharge. No associations were found with mismatch-when the actual discharge location was not the same as the physical therapist's recommendation for discharge (fall p=0.090, readmission p=0.087), medical diagnosis (fall p=0.989, readmission p=0.002*) or gender (fall p=0.737, readmission p=0.250) with patients' outcomes (reported falls or no falls and readmitted or not readmitted after 30 days from discharge). Areas under the ROC curves with "6-clicks" for fall status (patients who had either fallen or not fallen post discharge 30 days) was 0.463 (95% confidence interval (CI)=0.288, 0.637) and for readmission status (patients who had either readmitted or did not 30 days after discharge) was 0.477 (95% CI=0.351, 0.604). Areas under the curves with POMA scores for fall status was 0.505 (95% CI=0.331, 0.678) and for readmission status was 0.497 (95% CI=0.376, 0.617).

Discussion: The POMA, "6-clicks," and the physical therapist recommendations were not associated with patient falls or readmissions. Because other studies have shown a relationship between "6-clicks" and discharge location, there is a need for more studies that examine this relationship. Future studies should include a larger patient population, from multiple locations to diversify the participants and facilities.

***** Post-hoc testing showed no association with any of the individual medical diagnoses and readmission status (p values=0.012-0.317).

ACKNOWLEDGEMENTS

The authors would like to recognize and thank Daniel Young, PT, DPT, PhD for his guidance as our research mentor. The authors would also like to thank Jonathan Wright, PT, DPT for his leadership on conducting this project. This research study was made financially possible by the UNLVPT Student Opportunity Research Grant.

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INTRODUCTION

The acute care hospital is an inpatient setting in which patients receive care for injury and illness. On average, patients stay in the hospital for 4.8 days in the U.S.[1] Following discharge from the hospital, if a patient does not go to the best location for their continued recovery, whether it be due to the hospitals incorrect recommendation, or of their own volition, the patient could experience negative health consequences, such as falling, and possible re-admission to the hospital.[2] This can endanger the patient, prolong recovery, and increase health care costs.[3]

The physical therapist's role in the acute hospital is multidimensional and plays a large part in the safety of patients before and after discharge.[4] Physical therapists are relied upon to provide insight and recommendations regarding equipment and/or care to ensure patients the safest possible discharge (e.g., home health, skilled nursing facility, acute rehab, etc).[4] Masley et al. reported in 2010 that patients experienced a lower hospital readmission rate when the physical therapist discharge recommendation was followed.[4] Some resources a physical therapist uses to guide their recommendations include: a patient's prior level of function, their current function and independence, a patient's wants and needs, and the physical and social environment in which the patient lives.[5] There are many tools available for physical therapists to measure function objectively. The Tinetti Performance-Oriented Mobility Assessment (POMA) and AM-PAC Inpatient Mobility Short Form ("6-clicks") are two commonly used tools to measure patient function and inform physical therapist decision making in the acute hospital.[6,7]

Studies have demonstrated that "6-clicks" scores used in the acute care setting could be useful in enhancing the accuracy of discharge recommendations.[6] The POMA is also used regularly in the

hospital setting due to its brevity and reliability, while the "6-clicks" is a newer outcome measure being used with research-proven reliability.[7,8] Previous studies have not provided prospective data of POMA scores in combination with other outcome measures such as the "6-clicks" and taking into account physical therapy discharge recommendations. If physical therapists are better able to predict outcomes combining objective tools with professional judgment, this could greatly improve their recommendations and patient outcomes.

A physical therapist may be asked to consider a discharge plan that is not ideal due to insurance coverage, patient preference, or other circumstances. If a patient does not have insurance coverage, or enough money to pay out of pocket for the care they need, then the therapist may be asked to predict the consequences of such a change in discharge plan. If the consequence of these predictions can be shown empirically, better outcomes and less overall healthcare spending could be the result. If the predictions are shown to not be accurate, this may prompt therapists to use other methods to make informed recommendations. It is vital to the patient's safe recovery that they are discharged to the appropriate setting immediately following discharge.[9] Worley et al. stated that 40% of patient falls following hospital discharge occur in the first month.[9]

The health care industry is constantly looking for ways to cut costs while maintaining quality of care. According to Hines et al., two major costs related to overall national spending on healthcare are patient readmissions for the same condition and falls following discharge.[3] They also reported that from January to November 2011, hospitals in the U.S. billed $41.3 billion in readmission related care.[3] Additionally, one in three individuals ages 65 or older fall annually, which results in $34 billion in hospital costs.[10] Research by Hill et al. showed that within 6

months of discharge, 22% of the patients that went to a residential facility and 9.8% of patients that went back into the community were readmitted for a fall.[11] Physical therapists may have the potential to not only lower spending by decreasing readmissions, but also to help the patients have a better quality of life in preventing falls by predicting safest discharge locations.

Current research has shown that there are 4 key areas that physical therapist use in their decision making for discharge recommendation: function and disability, needs and wants, ability to participate in therapy, and life context.[5] Studies have shown the importance of a physical therapist recommendation for discharge such as Smith et al. who published a study regarding outcomes when patients follow physical therapist discharge recommendations.[2] In their study, patients were not discharged in accordance with physical therapist recommendation 17% of the time. When the recommendation was not followed and prescribed follow-up services were not received, patients were 2.9 times more likely to be readmitted to the hospital within 30 days of discharge.[2] This supports the value of physical therapists being involved in the discharge planning process.

The purpose of this study was to examine how PT's recommendation for discharge location, POMA score, "6-clicks" score, age, diagnosis, and gender determine a patient's success after being discharged by hospital. For the purpose of this study, we define success as a patient having no falls or readmission through the first 30 days after discharge. Although physical therapists play a key role in making recommendations for patients, they do not act alone in discharge planning. This study will provide empirical evidence for the physical therapist's

recommendation, allowing it to be weighted appropriately with the other members of the health care team.

METHODS

Subjects

Written informed consent was obtained from 113 patients; however, were only able to collect falls and readmission data from 100 patients, 4 of which were not able to give information for falls. The inclusion/exclusion criteria for the patients were that they must have been seen by a physical therapist in the acute care setting, scored on both "6-clicks" and POMA, have been given a physical therapist discharge recommendation, and were over the age of 18.

Study Aims

The first aim was to analyze the POMA and/or "6-clicks" scores in relationship to patient readmissions within 30 days of discharge from the hospital.

Hypothesis 1: Patients who were readmitted within 30 days of discharge from the hospital will have lower "6-clicks" and POMA scores than patients who were not readmitted.

The second aim of the study was to analyze the POMA and/or "6-clicks" scores in relationship to falls within 30 days of discharge from a hospital setting.

Hypothesis 2: Patients who experienced a fall within 30 days of discharge from the hospital will have lower "6-clicks" and POMA scores than patients who did not fall.

The third aim was to compare the number of patients with a readmission among those who followed the physical therapist's discharge recommendations to those who did not follow the recommendation.

Hypothesis 3: Among patients who were not compliant with physical therapist's discharge recommendation more would be readmitted within 30 days of discharge than among patients who were compliant.

The fourth aim was to compare number of patient falls in 30 days following discharge among those who follow a physical therapist's discharge recommendation and those who do not. Hypothesis 4: Among patients who were not compliant with their physical therapist's discharge recommendation more would experience a fall within 30 days of discharge than among patients who were compliant.

Procedure

The UNLV research team along with research mentor met regularly to plan and coordinate this project, which included getting approval of IRB through UNLV and delegating research duties to each individual. This study was performed by working in conjunction with a physical therapist in an acute care hospital in the Northwestern United States. This therapist coordinated between the hospital and off-site research team members to obtain permission to conduct the research. He also collected the data from the hospital. Data was collected from the physical therapist's documentation for study patients from May to June 2016.

Physical therapists at this hospital used the "6-clicks" and POMA outcome measures, along with his own professional judgment, to create a patient recommendation for discharge. The scores used in analysis for this study were the last available for each patient. These outcome measures were chosen based on their reliability and validity, ease of use in the hospital setting, and current use of the POMA by many therapists at the hospital.[6,5]. The therapist obtained the following from their medical record at the conclusion of the patient's hospitalization: the physical therapist's recommendation for discharge location, their actual discharge location, POMA and "6-clicks" scores, age, gender, and medical diagnosis. After the clinical site therapist coordinator

collected the data it was sent electronically to the student researchers. Admitting medical diagnosis were grouped into the following categories: cardiovascular, pulmonary, neurological, gastrointestinal, musculoskeletal, oncologic, genitourinary, integumentary, infectious disease and other. Physical therapist's recommendation for discharge location was grouped into the following categories: home, home with home health, acute rehab, skilled nursing facility, and assisted living.

The therapist contacted patients via telephone approximately 30 days post-hospital discharge and asked two questions: "Have you (the patient) been readmitted to any hospital within 30 days following discharge?" and "Have you (the patient) fallen within 30 days following discharge?"

Instrumentation

Two standardized tests were used in this study, the POMA and the "6-clicks". The "6-clicks" used in our study is a short form created with 6 questions from the Activity Measure for Post-Acute Care (AM-PAC), which was developed by researchers at Boston University.[6] The "6-clicks" measures three functional domains: basic mobility, daily activities, and applied cognition. The short form used in this study was the mobility form, activity and cognition were not assessed. The "6-clicks" instrument is used to evaluate basic mobility (turning over in bed, sitting down on and standing up from a chair with arms, moving from lying on back to sitting on side of bed, moving to and from a bed to a chair, walking in hospital room, and climbing 3-5 steps with railing). The "6-clicks" includes these six items each scored on a 1-4 scale. The first three questions refer to how much difficulty the patient has completing specific activities. A score of 4 being that the patient does not have any difficulty completing the task and 1 is the

patient is unable to perform the activity. The last three questions ask how much help is required from another person. A score of 4 means no help required whereas a 1 equates to total assistance to complete the activity. This results in a maximum score of 24 which relates to higher functioning individuals. The advantages of this instrument are: it allows for quick assessment of function, provides data for distinguishing between activities, and the therapist may either directly observe or score based on patient, family, or other provider report.[6]

There is a need to ensure an accurate and consistent measure is being used for balance. New tests have evolved because subjective clinical reports have been insufficient and ambiguous descriptors for balance (i.e. “poor, “fair,” and “good”) do not have consistent operational definitions.[7] They have also been questioned by payers of physical therapy services.[7] Because of this, the POMA was developed.[7] The assessment includes the scoring of balance during various functional tasks and gait quality.[7] The balance areas assessed are sitting balance, arising balance, immediate standing balance, side-by-side standing balance, nudged, eyes closed, turning 360 degrees, and sitting down. Scoring varies between items but ranges from 0-2 with a higher score corresponding with higher levels of stability. This section has a max score of 16. The gait portion includes initiation of gait, step length and height, foot clearance, step symmetry, step continuity, path deviation, trunk sway, and walking time. The scoring format is similar in this section but has a maximum score of 12. The totals from each section are added to give a total maximum score of 28. The test states: ≥ 24 is a low fall risk, 19-23 is a moderate fall risk, and ≤ 18 is a high fall risk. Combining the sections provide an overall score based on a patient’s static and dynamic balance.

Variable and Inclusion Criteria:

After the data collection, the therapist sent de-identified data in an electronic spreadsheet file through secured email to UNLV where it was analyzed. This data included age of patient in years, gender, "6-clicks" and POMA Score, admitting medical diagnosis, physical therapists' recommendation for discharge location, patient's actual location of discharge, reported fall status within 30 days of discharge, re-admission within 30 days of discharge, consent to be in the study, and indication of lost to follow-up.

Data Analysis

Microsoft Excel (Microsoft Office 2016) was used for data organization and storage and SPSS software (Version 23 and 24) for statistical analyses. Frequency of readmission, falls, admit diagnosis, and mismatch between actual and recommended discharge location were calculated. The alpha level for all statistical analyses was set *a priori* at $\alpha = 0.05$. Independent t-tests were used to compare the following: 1. "6-clicks" scores of patients who reported readmission within 30 days after discharge vs the patients who did not report readmission. 2. POMA scores of patients who reported readmission within 30 days after discharge vs patients who did not report readmission. 3. "6-clicks" scores of patients who reported a fall vs those who reported no falls within 30 days of discharge. 4. POMA scores of patients who reported a fall vs those who reported no falls within 30 days of discharge. 5. Age of patients who reported readmission versus patients who did not within 30 days of discharged 6. Age of patients who reported of a fall versus those who did not. Six Chi-square analyses were performed to compare patient outcomes on mismatch (when the actual discharge location was not the same as the physical therapist's recommendation for discharge), medical diagnosis and gender. To determine whether "6-clicks"

or POMA could be used to predict patient outcomes (either fall or readmission after 30 days from discharge), 4 receiver operating characteristic (ROC) curves were constructed.

RESULTS

Descriptive statistics:

One hundred and thirteen patients were included in this study. Of the 113 patients, 100 were able to be reached by phone for post discharge follow-up (Figure 1). Within 30 days of discharge, 9 patients reported having a fall and 28 patients reported a readmission (Table 1). The age of the patients ranged from 37-95 years old, with an average of 69.78 years and 59 were male and 41 were female. The most common diagnosis was cardiovascular related (31 patients). When looking at mismatch of physical therapists' discharge recommendation and actual patient discharge location, 24 patients did not follow this recommendation, while 76 patients did. The "6-clicks" scores ranged from 10 to 24, with a mean of 18.20 (Figure 2). The POMA scores ranged from 0 to 28, with a mean of 17.89 (Figure 3). Patient characteristics are shown in Table 2.

Independent t-test comparisons:

There was no significant difference [$t(93) = -0.428$, $p=0.667$] between the 6-clicks scores of patients who reported falling (mean=18.78, SD=3.88) after being discharged versus those who did not (mean=18.20, SD=3.23). There was also no significant difference [$t(93) = -0.139$, $p= 0.890$] between the POMA scores of patients' who reported falling after discharge (mean=18.11, SD=6.29) and those who did not (mean=17.76, SD=7.37).

Regarding readmission within 30 days, there was no statistical difference [$t(98) = -0.235$, $p=0.815$] between the "6-clicks" scores of patients who were readmitted (mean=18.39, SD=3.72) and patients who were not (mean= 18.19, SD=3.83). Similar results were found with POMA

scores [t(98)= -0.315, p=0.753] between patients who were readmitted (mean= 18.25, SD=6.386) and patients who were not (mean= 17.75, SD= 7.384).

There was no difference in patient age [t(93)= 0.076, p=0.940] when comparing patients who fell (mean=69.33, SD=11.292) or didn't fall (mean= 69.69, SD= 13.441) and there was no difference in age [t(98)= 0.339, p= 0.735) between patients who were readmitted (mean= 69.04, SD= 10.328) or not (mean= 70.06, SD= 13.914) within 30 days of being discharged.

Chi-square analysis

Using Chi-square analysis, we found that there was no association between patients who had reported a fall or no falls within 30 days from discharge with mismatch status [χ^2 (1, N=95)=2.881, p=0.090]. There was also no association between patients' who were readmitted or were not within 30 days from discharge with mismatch status [χ^2, (1, N=100)=2.926, p=0.087].

There was no association between gender and patients who had reported a fall or not [χ^2 (1, N=95)=0.184, p=0.737]. We also did not find any association between gender and readmission status [χ^2 (1, N=100)=1.302, p=0.254].

As for patients' medical diagnosis and their outcomes after discharge, there was no significant association between medical diagnoses and fall status [χ^2 (8, N=95)=1.677, p=0.989]. We did find that there was a significant association between medical diagnosis and readmission status (χ^2, (9, N=100)=25.70, p=0.002). Post-hoc testing was performed using the comparing residuals

method with an adjusted alpha level of 0.0025.[14] Using the adjusted alpha, there was no significant association between any individual medical diagnosis and readmission status (p's=0.012-0.317, Table 3).

ROC curves

Two ROC curves were generated for "6-clicks" score, one based on fall status and the other for readmission status. The area under the curve was 0.463 (95% confidence interval (CI)= 0.288, 0.637) for fall status and 0.477 (95% CI= 0.351, 0.604) for readmission status. Two additional ROC curves were constructed using the POMA score, one for patient's fall status and another for readmission status. The area under the curve for falls status was 0.505 (95% CI = 0.331, 0.678) and for readmission status was 0.497 (95% CI= 0.376, 0.617). (Figure 4 & 5 displays "6-clicks" and POMA ROC curves).

DISCUSSION

The purpose of this study was to examine how PT's recommendation for discharge location, POMA score, "6-clicks" score, age, diagnosis, and gender determine patient's fall/readmission status after being discharged by hospital. There were no significant differences between patients who fell or did not have a fall based on "6-clicks" scores, POMA scores, or age. No differences were found between patients' who were readmitted or were not readmitted after 30 days from discharge based on "6 clicks" scores, POMA scores, or age. No associations were found between mismatch, medical diagnosis, or gender and patients' outcomes (fall status and readmission status).

Our findings had both similarities and differences from previous literature. Worley et al. in 2010 stated that neither gender nor age were a predictor of falling.[7] This corresponds to our own results as we found no significant difference in age or gender between fallers and non-fallers; however, this article did state that they found patient diagnosis had an association with falling and non-falling, as well as severity of their injury/illness. Unlike Worley et al., we found that there were no significant associations between medical diagnosis groups and fall status. Between our study and Worley et al., the different findings of the fall stats and medical diagnosis groups might be due to medical diagnosis groups were categorized differently, or our study having small number of patients in each medical diagnosis group.

Fisher et al. in 2015 found that overall, 25.3% of their initial sample was readmitted to an acute care hospital within 30 days of discharge from an acute care hospital.[12] We found similar results in our study with 25.3% of our sample experiencing readmission within 30 days. However, they grouped their patients' medical diagnoses differently than we did, so we are unable to compare the differences between percentages of patients with different medical diagnoses between our studies.[12] The mean age of patients in the Fisher et al. study was 76.5 years with half of the patients being male, whereas the mean age for our study was 69.78 with 59% of the patients being male. These differences might be explained by our sample size or demographic location. A study conducted by Smith et al. in 2010 found that patients whose therapist discharge recommendation was not followed were not significantly more likely to be readmitted than patients who followed the recommendation.[2] However, our study found no significant difference in readmission when comparing patients whose discharge followed or did not follow the physical therapists' recommendation. Eighteen percent of the patients in the study conducted by Smith et

al. were readmitted to an acute care hospital, whereas readmission for our study was slightly higher at 25.3%, as mentioned previously. There was a 17% mismatch between recommendation and discharge location found by Smith in 2010, whereas in our study as we had 24% mismatch. The differences in percent of mismatch and readmissions between our study and the Smith et al. study could be due to differences in patient sample size as well as number of physical therapists involved, availability of further healthcare facilities (i.e. rehab or home health), physician incentive to discharge a patient to a particular location, or financial demographics of the participating patients. The statistics for their study were conducted differently by delving further into mismatch status, and separating the sections into 3 categories (match, mismatch with services lacking, mismatch with different services), whereas our study only had 2 categories (match, mismatch). There was no significant difference in age between participants who had fallen or been readmitted versus those who did not after 30 days from discharge. This was a similar finding by Smith et al. who stated age was not a significant predictor variable.

Jette et al. showed that the "6-clicks" can be used for predicting discharge destination, but did not assess whether it predicted falls or readmissions.[8] The data they analyzed was from the initial visit by a physical or occupational therapist, while the data that we used for this study was that closest to discharge date. Our study looked at whether the "6-clicks" or the POMA could predict a patients' readmission or fall within 30 days from hospital discharge. To our knowledge, the present study is the first to examine the ability of the POMA and "6-clicks" to predict either fall status or readmission status within 30 days after being discharged from the acute setting. The areas under the ROC curve (Figure 4 and Figure 5) ranged from 0.463-0.505, suggested that

POMA and “6-clicks” cannot be used to predict fall status or readmission status within 30 days from hospital discharge.

Limitations

This study did have several limitations. The data was only collected from one hospital, which may not represent demographics in other areas of the country. Due to taking data from one location, we were not able to account for potential differences in demographic variables for other regions of the United States. Another limitation was the phone call follow-up questions did not ask if hospital readmission was due to the same or a different medical condition. This could have altered our results if a patient was readmitted for an unrelated or new medical condition. Another consideration would be that the patients were not followed through the complete continuum of care. This may mean that they were safely discharged from acute care to the correct location (ie SNF) initially, but then received poor care or incorrect discharge from that location resulting in a fall or readmission within the same 30 day span. We also must take into account the possibility of poor patient recall for falls and readmissions, which would contribute to information bias. Patients may have forgotten they fell or did not want to admit this. Furthermore, we used a sample of convenience making it less likely for our results to have generalizability. We don’t know if the patients in the study, who were able to be contacted and willing to participate, have different characteristics than patients who were not willing to participate. Additionally, we also do not know how many patients were willing or not to initially participate in the hospital at consent.

CONCLUSION

Future studies:

Studies on this same topic at different hospitals may eliminate a research limitation. More demographics should be considered, (i.e. race, ethnicity, socioeconomic standing, etc) as these may have an effect on commonly seen diagnoses and ability for further resources or different discharge locations. Further research would also benefit from a more thorough system of tracking and collecting data throughout the continuum of care in all healthcare settings in order to determine if a patient was readmitted for the same condition or if a particular setting resulted in poor patient outcomes. Future studies should include the "6-clicks", POMA and other outcome measures administered in the hospital setting to see if these outcome measures can demonstrate accuracy of predicting falls and readmissions. All of these factors may combine to help guide the physical therapy profession into a more uniform system of outcome measures performed and increase proper physical therapy recommendations for discharge disposition.

Our study revealed no significant differences between patients who fell or did not have a fall based on "6-clicks" scores, POMA scores, or age. No differences were found between patients' who were readmitted or were not readmitted after 30 days from discharge based on "6 clicks" scores, POMA scores, or age. Additionally, no associations were found between mismatch, medical diagnosis, or gender and fall status and readmission status.

APPENDIX A- TABLES

Table 1: Patients' outcome after 30 days of discharge

Outcome	**n=113 (100%)**
Falls, n (%)	
Yes	9 (8.0%)
No	86 (76.1%)
No Follow-up	18 (15.9%)
Readmission, n (%)	
Yes	28 (24.8%)
No	72 (63.7%)
No Follow-up	13 (11.5%)

Table 2: Patient characteristics

Variable	n=100
Age, mean (SD)	69.78 (12.97)
Male, n (%)	59 (59.0)
AM-PAC "6 clicks" score[a], mean (SD)	18.20 (3.75)
Tinetti POMA score[b], mean (SD)	17.89 (7.10)
Discharge disposition, n (%)	
Home	53 (53.0)
Home with HH	16 (16.0)
Acute Rehab	4 (4.0)
ALF	24 (24.0)
SNF	3 (3.0)
Mismatch status[c], n (%)	
Followed recommendation	76 (76.0)
Medical diagnosis, n (%)	
Cardiovascular	31 (31.0)
Pulmonary	19 (19.0)
Neurological	7 (7.0)
Gastrointestinal	8 (8.0)
Musculoskeletal	14 (14.0)
Oncological	1 (1.0)
Genitourinary	4 (4.0)
Integumentary	1 (1.0)
Infectious Disease	6 (6.0)
Other	9 (9.0)

[a]AM-PAC "6 clicks" range 6-24

[b]Tinetti POMA range 0-28

[c]Actual location of discharge versus the physical therapist recommendation for discharge location.

SD=standard deviation; HH=home health; ALF=assisted living facility; SNF=skilled nursing facility.

Table 3: Chi-square Post-hoc test of medical diagnosis and readmission status (yes/no).

Variable	Residual Z-score	Chi square	p=value
Cardiovascular	-1.772	3.140	0.076
Pulmonary	2.089	4.364	0.037
Neurological	0.908	0.824	0.364
Gastrointestinal	-1.839	3.382	0.066
Musculoskeletal	-2.516	6.330	0.012
Oncological	1.612	2.599	0.107
Genitourinary	1.000	1.000	0.317
Integumentary	1.612	2.599	0.107
Infectious Disease	2.176	4.735	0.030
Other	0.374	0.140	0.708

Note: Significant association is $p<0.0025$

APPENDIX B- FIGURES

Figure 1: Reason for attrition

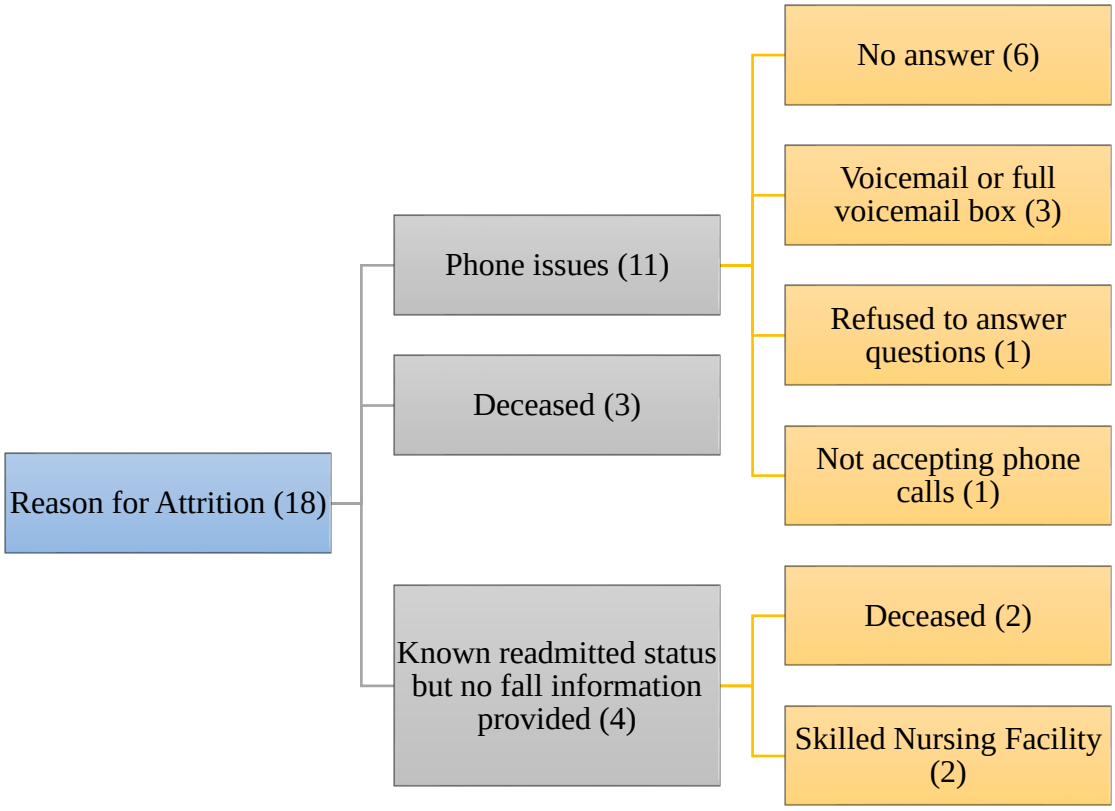


Figure 2: Frequency of the AM-PAC “6 Clicks” scores

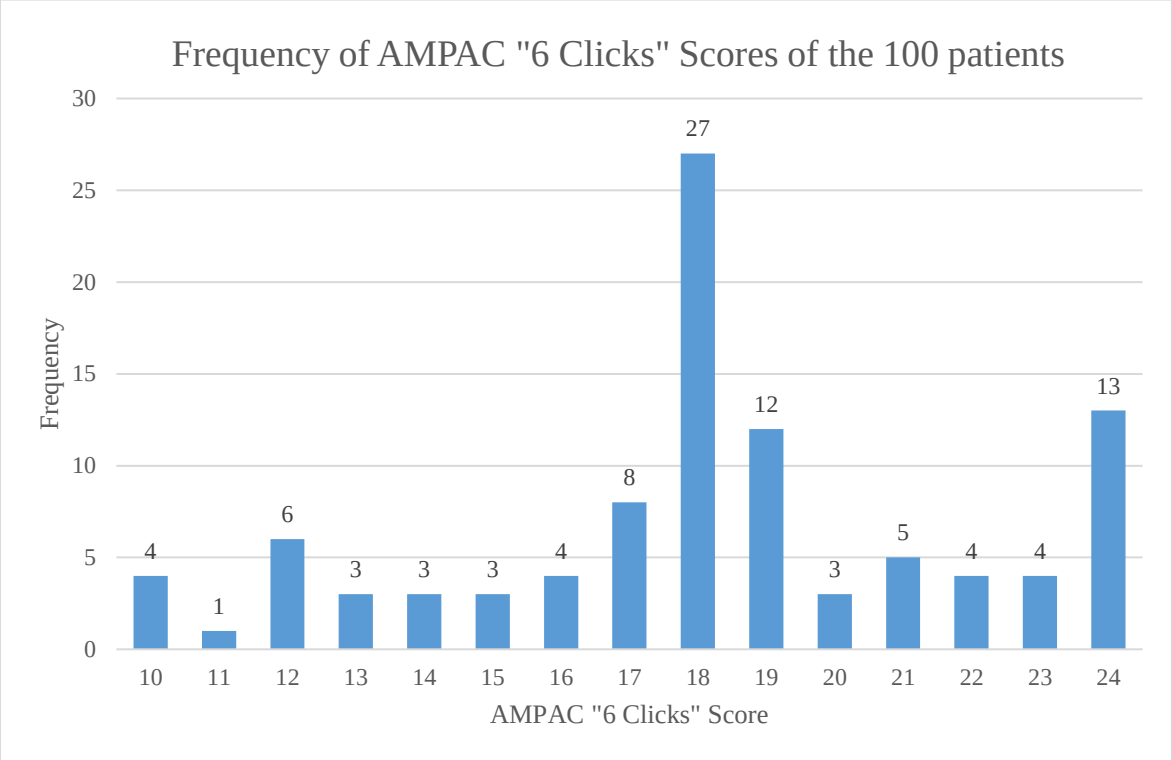


Figure 3: Frequency of the Tinetti POMA scores

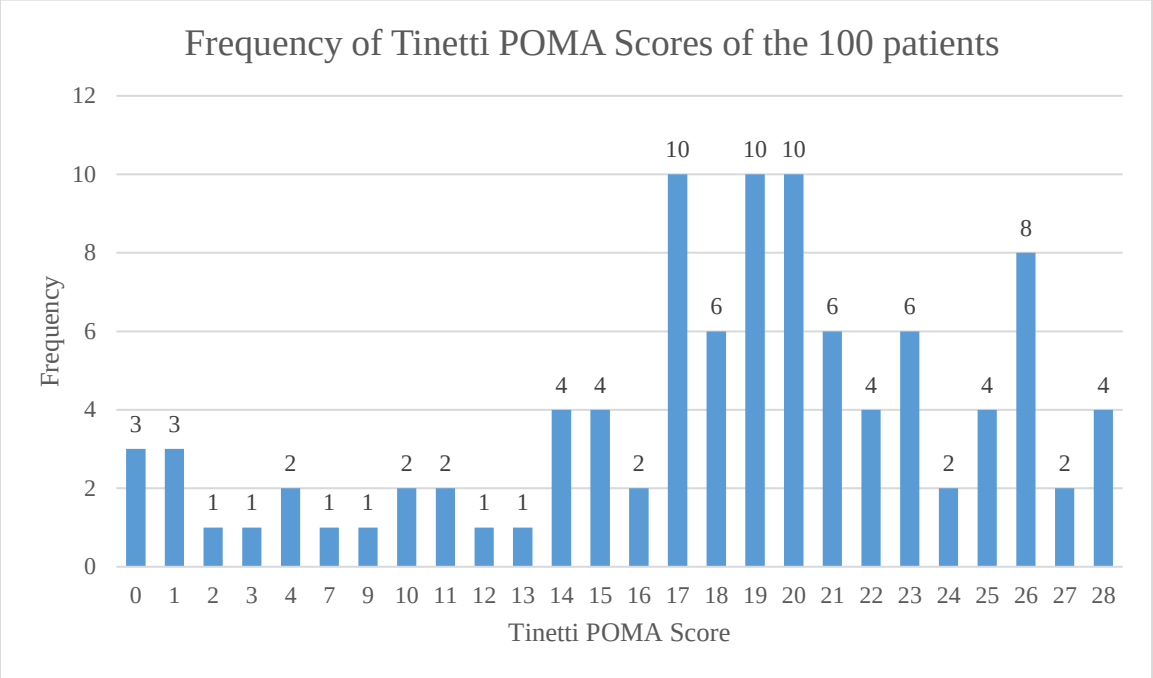


Figure 4: ROC curve graph of AM-PAC "6 clicks" and Tinetti POMA with fall status

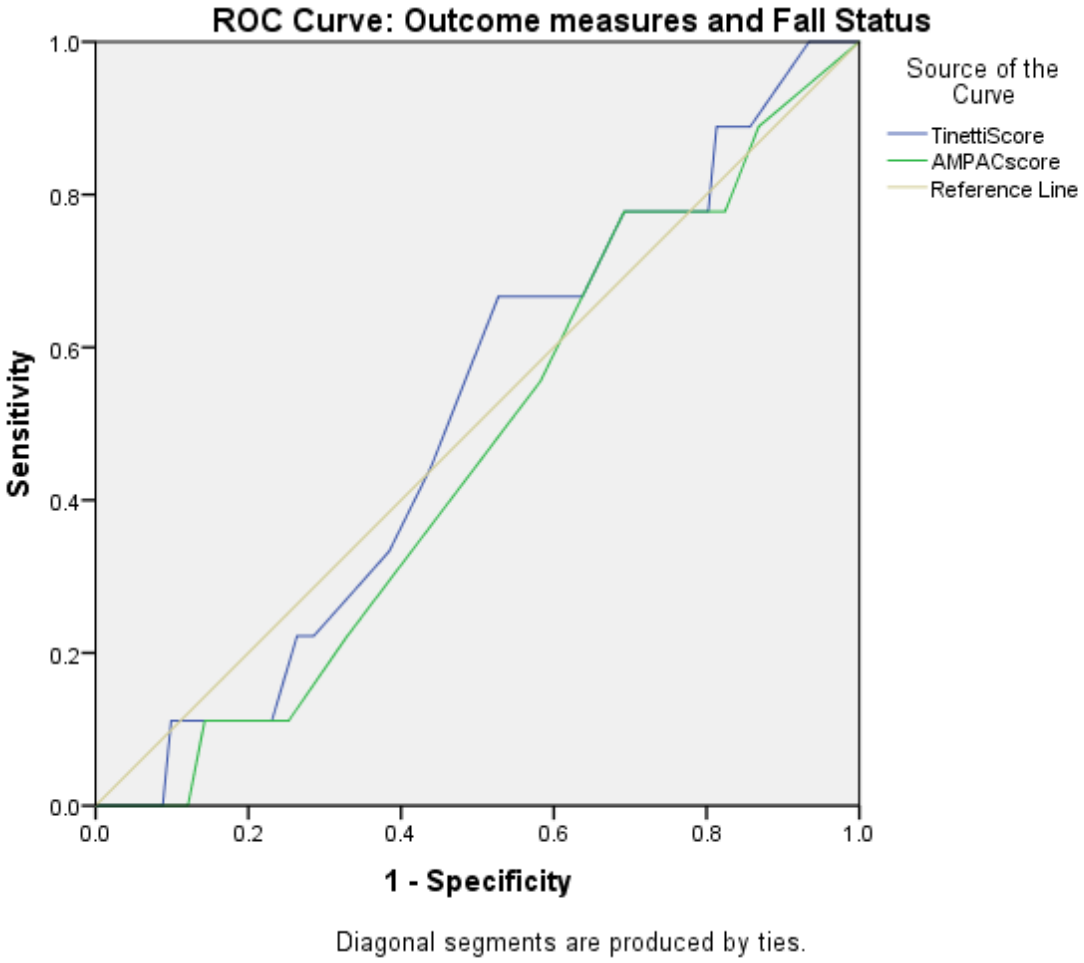
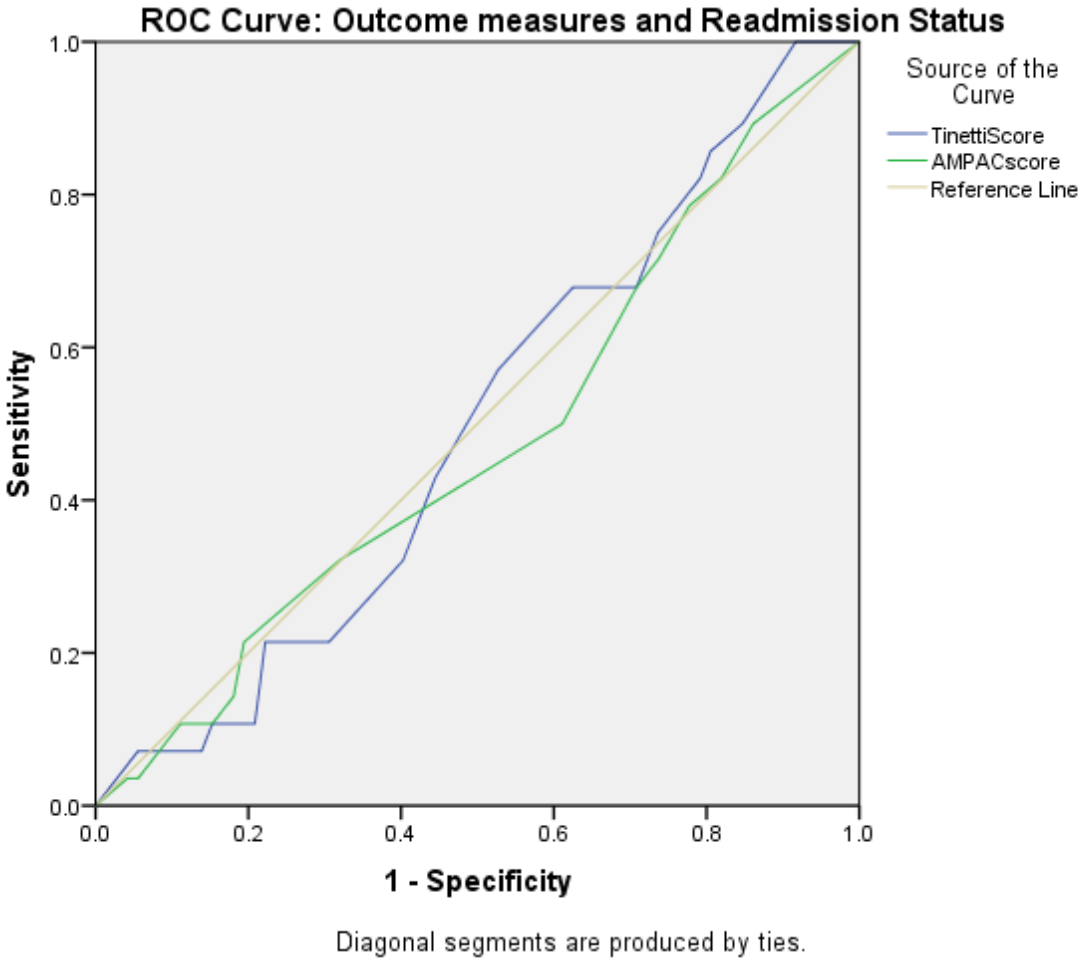


Figure 5: ROC curve graph of AM-PAC "6 Clicks" and Tinetti POMA with readmission status.



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Professional Experience

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Awards and Honors

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