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Patient No-show for Outpatient Physical Therapy: A National Survey

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PATIENT NO-SHOW FOR OUTPATIENT PHYSICAL THERAPY:
A NATIONAL SURVEY

By

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

Doctorate of Physical Therapy

Department of Physical Therapy
School of Allied Health Sciences
The Graduate College

University of Nevada, Las Vegas

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We recommend the doctoral project prepared under our supervision by

James Bokinskie, Payton Johnson, and Trevor Mahoney

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ABSTRACT

Introduction: Patients who fail to show for scheduled medical appointments (no-show) create a cascade of issues for the health care system, the provider, and themselves. No-show can affect clinical productivity, cost and quality of care, and treatment outcomes. There is an overwhelming lack of research on no-show as it relates to outpatient physical therapy in the United States. The purposes of this study were to report national no-show rates, describe the presence and characteristics of no-show policies, determine the relationship of these policies and other demographic information to no-show rates, and describe the most commonly perceived reasons for no-show.

Methods: An online survey was developed and made available to an estimated 7,128 outpatient physical therapists currently practicing in the United States. Participants received the survey link through one of four methods: in person at the 2014 American Physical Therapy Association (APTA) Combined Sections Meeting, through direct mail to APTA members registered as outpatient practitioners, through social media postings, and through an online newsletter available to members of the International Spine and Pain Institute. The survey requested information regarding demographics, clinical setting, reasons for no-show, no-show rates, and no-show policies. T-tests, one-way ANOVAs, and Kruskal-Wallis tests were used to compare clinic no-show rates among locations,

settings, and different no-show policies, and to ultimately make future no-show policy recommendations based upon significant findings.

Results: Of the 802 surveys that were completed, 634 reported a no-show rate. Nationwide the mean no-show rate was 10.4% (± 7.43). About half (52.5%) of respondents were from private outpatient clinics and 77.4% of respondents reported their clinic has a written no-show policy. The #1 most commonly reported reason for no-show was that the patient “forgot”. Private clinics reported significantly lower no-show rates (7.81% \pm 5.92) than hospital-campus clinics (14.53% \pm 8.17; $p < 0.001$) and pediatric clinics (12.86% \pm 9.50; $p = 0.049$). Employing a multi-method reminder system along with requiring a 24 hour cancellation notice was associated with a significantly lower no-show rate when compared to only using phone call reminders (multi-method and 24 hour notice = 6.07% \pm 4.59, phone call only = 13.80% \pm 9.66; $p = 0.019$). In addition, no-show consequences that included a fee were associated with a significantly lower no-show rate than those that included the possibility of discharge (“charge a fee” = 8.85% \pm 6.13, “discharge” = 13.22% \pm 8.67; $p = 0.049$).

Discussion: The majority of outpatient physical therapy clinics (77.4%) have written no-show policies, and although no-show policy characteristics and the rates associated with them are diverse, it appears that a proactive policy may limit no-show

frequency. No-show policies are needed and useful when considering a nationwide mean no-show rate of 10.4%, “forgot” as the #1 perceived reason for no-show, and significant findings regarding specific strategies and consequences that limit no-show. The impact of no-show on productivity, revenue, cost and quality of care, and patient outcomes are all areas for future research.

Conclusions: Based on the data, the authors recommend a policy including multiple methods of reminders (emails, phone calls, and text messages) and requiring that the patient give 24-hour notice of cancellation or face a financial penalty.

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INTRODUCTION

Patients who fail to show for scheduled medical appointments (no-show) create a cascade of issues for the health care system, the health care provider, and themselves. No-shows can affect clinical productivity, cost and quality of care, and treatment outcomes.¹⁻⁶ In a multi-physician center, no-shows contributed to 25.4% of unproductive time and ultimately cost the center 14% of anticipated daily revenue.² No-shows can also change the professional-patient dynamic leading to miscommunication, decreased empathy, and poor quality of care.³

In addition, no-show rates can be difficult to interpret as they fluctuate depending on healthcare location and the type of services provided. No-show rates in a multi-physician center in South Carolina were reported to be as high as 50%, while a no-show rate as small as 2.29% was reported in an outpatient physiotherapy clinic in Montreal, Quebec.^{2,7} Therefore, in order to fully understand this phenomenon, there is a need for research within specific clinical settings and different disciplines.

Furthermore, it is important to identify the reasons for no-show, as this will allow professionals to implement an effective prevention plan, especially if the reasons identified are within the clinic's control or influence. In previous studies, reasons consistently reported for no-shows were patient emotional issues, such as fear and

anxiety of the treatment, a negative or blind anticipation of what to expect at the appointment, perceived disrespect from the health care provider, and not understanding the scheduling system.^{1,3} Another area of interest regarding no-show includes researchers attempting to identify possible predictors for no-show such as age, gender, socioeconomic status, education, and insurance coverage.⁸⁻¹⁰ Therefore, studies exploring no-show are important in healthcare settings in order to prevent negative outcomes and limit no-show rates.

Unfortunately, there is an overwhelming lack of evidence and research on no-show rates and policies for outpatient physical therapy clinics in the United States. Following a thorough literature review, only one article from 1987 by Schunk et al¹¹ was found on this topic for outpatient physical therapy clinics in the United States. In this article the authors reported on a survey that described the existence of no-show rates and policy trends in outpatient physical therapy within the state of Oregon. They showed that 86% of clinics defined no-show as “anyone who does not come or call” and that only 29% of participating clinics in the area had written no-show policies. It is evident that further research in this area is needed to allow therapists to prevent negative outcomes and understand no-show, empowering them with the knowledge for needed change and prevention.

PURPOSES

The primary purposes of this study were to report national no-show rates, the presence and characteristics of no-show policies, and the most commonly perceived reasons for no-show for outpatient physical therapy. The secondary purposes were to understand whether practice settings, demographics, no-show prevention strategies, no-show consequences, and/or other no-show policy characteristics would change the no-show rate in outpatient physical therapy practice.

METHODS

Survey Development and Distribution

Following approval from the University of Nevada, Las Vegas (UNLV) Institutional Review Board, a survey (Appendix A) was designed to collect information from 3 key domains including: clinic demographics, classification, and personnel (Questions 1-4); the presence of a no-show policy and the characteristics of it including enforcement, presentation, prevention strategies, and consequences (Questions 5-14); and personal and clinic no-show rates, definition of a no-show, and the most commonly perceived reasons for no-show (Questions 15-20). The survey was created to allow for a variety of responses. “Yes/No” questions were used to allow researchers to make comparisons between two groups and to allow participants to skip the following questions if they were unable to provide the information. Multiple-choice questions allowed respondents to “select all that apply” which helped researchers to understand the complexity of each clinic’s no-show policy and to make further comparisons between groups regarding the no-show rate. Question 14 was designed as an open-ended question to allow respondents to describe their no-show policy in ways that the survey failed to address. For descriptive purposes, question 16 asked respondents to describe their clinic’s definition for no-show. Question 20 allowed respondents to rank the 3 most commonly

perceived reasons for no-show with 1 as the most common reason and 3 as the third most common reason. Lastly, although not indicated within Appendix A, there was a final question that requested participants to identify the source of recruitment that led them to the survey for the researchers' information as to the success of each method.

Three student physical therapists and the mentoring professor who has 12 years' experience as a Physical Therapist drafted the survey. The research team met on a regular basis in order to ensure all questions were appropriate and understandable for the target population and to accomplish the purposes of the study. Additionally, the survey was reviewed by members of the Private Practice Section of the American Physical Therapy Association (APTA) as well as the Department Chair of the UNLV Physical Therapy Program and their suggestions were incorporated into the final version before sending it out to clinicians for completion. Using Qualtrics*, an online survey management solution, a survey link was then provided to the participants, which directed them to the survey for completion in their computer or mobile browser. Individual responses of each participant were recorded via their IP address by the software. The survey remained open for 10 weeks and then was closed and no more responses were collected.

Recruitment

* Copyright © 2014 [Qualtrics, LLC](#). All Rights Reserved.

Participants were recruited through four methods: flier, direct mail, social media, and newsletter. First, 128 physical therapists' email addresses were collected at the 2014 APTA Combined Sections Meeting (CSM) held in Las Vegas, Nevada. The authors received permission from the Private Practice Section of the APTA to occupy their rented booth space in the exhibit hall, hand out fliers regarding the survey, and collect the email addresses of potential participants. In the days following the conference, the survey link was emailed to the 128 participants. Second, using a list of outpatient physical therapists' mailing addresses, obtained from the APTA, the survey link and a flier describing the research project were mailed to 6,500 individuals. Third, the link to the survey was posted on social media (Facebook and Twitter). Finally, hundreds of members of the International Spine & Pain Institute (ISPI) had the survey link made available to them through an online monthly newsletter. While approximately 6,628 persons received the survey link through either direct mail or email, the exact number of persons who received the survey link from the social media and newsletter methods is unknown. The researchers estimate that approximately 500 additional persons received and/or viewed the survey link through social media and the newsletter; this estimate was obtained by asking the persons who posted the social media messages about the number of friends and followers they have and talking to an ISPI board member regarding the newsletter distribution. All participants were notified of an incentive for completing the survey

either through the recruitment flier and/or through the survey's lead page. The incentive included entering a drawing to win one of two 32GB iPad minis. Upon completion of the survey participants were invited to enter the drawing by providing their email address. These email addresses were used solely for the purpose of contacting the two winners, who were randomly selected after the survey was closed.

Statistical Analysis

Survey responses were exported from the Qualtrics software into SPSS[†] for statistical analysis. Descriptive statistics were analyzed for demographics, no-show rates, reasons for no-show, and characteristics of no-show policies. As the data were normally distributed, two independent T-tests were used to compare clinic no-show rates between 1) rural and urban clinics and 2) clinics with a written no-show policy and those without.

In addition, one-way ANOVA or a Kruskal-Wallis test (as appropriate) was used (Appendix C) to compare clinic no-show rates among 1) clinical settings (private, physician-owned, hospital-based, pediatric, military, corporative, academic, hospital-satellite, and other specialty settings grouped together), 2) US regions (West, Midwest, Northeast, and South), 3) strictness of policy enforcement (do not enforce, enforce ~25% of the time, enforce ~50% of the time, enforce ~75% of the time, and enforce ~100% of

[†] International Business Machines Corporation (IBM); SPSS Version 21.

the time), 4) presentation methods of no-show policy (written, verbal, and/or posted sign), 5) clinicians' perceptions of the effectiveness of a no-show policy (strongly agree in effectiveness, agree, neither agree nor disagree, disagree, or strongly disagree), 6) no-show prevention strategies (phone-call/text message/email reminders, 24 hour cancellation notice requirement, and/or a reminder of the consequences upon scheduling), and 7) consequences for no-show (charging a fee for no-show(s), threatening to discharge patient for no-show(s), verbal warning(s), and/or a reminder of the missed appointment). Initially, a test of homogeneity of variances was used for all comparisons and if the data varied significantly then the non-parametric Kruskal-Wallis test was used. Upon finding significance ($p < 0.05$) among the comparisons, data were further analyzed using post-hoc tests with Bonferroni correction of the alpha value. Clinic no-show rates were used as the dependent variable and a significance level of 0.05 was used for all tests.

RESULTS

Descriptive Statistics

Of the estimated 7,128 persons who received and/or viewed the survey link, 802 physical therapists completed some portion of the online survey and 634 of them reported a no-show rate. The estimated survey response rate was 11.3%, with 22 persons indicating that they followed the link from social media, 78 from the ISPI newsletter, 66 were recruited from CSM, 37 had the link shared with them through email or by word of mouth, and the remaining 599 received the link through direct mail. The mean no-show rate for all respondents was 10.4% (± 7.43). For data analyses, all 634 reported no-show rates were considered in order to be all inclusive regardless of the clinic's specific definition for no-show; however, only 3.8% of respondents did not consider "the patient does not come or call" as a part of their definition. Additionally, 77.4% of clinics reported that their clinic has a formally written no-show policy. These data represent physical therapy clinics throughout the United States with 32.2% of responses coming from the Western region, 27.4% from the Midwest region, 22.1% from the Southern region and 14.7% from the Northeast region (Figure 1). Finally, 33.8% of respondents classified their clinic as urban, and 20.6% as rural.

The majority of respondents (84.5%) answered the clinic classification question, revealing that 52.5% came from private outpatient clinics and 26.0% from hospital-campus outpatient clinics. The remaining 21.5% of clinics were classified from among the following: hospital-satellites, physician-owned, pediatric, corporate, military, academic and other specialties (Figure 2).

Many respondents (70.2%) also reported how their clinic's written no-show policy is presented to clients: 33.6% present their policy through both written and verbal methods, while 33.3% provide it only in written form. The remaining 33.1% use different combinations of written, verbal, and physical postings of the policy in the clinic.

All but two of respondents reported that their clinic implements no-show prevention strategies. Over 40 different combinations of strategies were reported, including reminders before the appointment (i.e. phone call, text message, postal service, email, verbally, or through automated systems using the aforementioned reminders), phone calls following a no-show, a 24-hour cancellation policy, or a reminder of the consequences for a no-show when scheduling. The three most frequent strategies and/or combinations of them were: 12.8% phone call reminder and a reminder of a required 24-hour cancellation notice, 5.1% combined the previous 2 with a reminder to patients of no-show consequences, and 6.0% used only a phone call reminder. The eight most frequent

strategies and/or combinations of them were used for one-way ANOVA comparison of the no-show rate.

Just over half of respondents (54.1%) reported that their clinic implements no-show consequences for patients and many different combinations of these were also described. The most common consequences were charging a fee, discharging the patient, or giving warnings and reminders of the consequences. The four most frequent consequences were: 18.4% will “charge a fee”, 15.9% will “discharge” a patient, 15.4% used a combination of “warnings” and “discharge” and 13.1% used a combination of “warnings” and “charge a fee”. The eleven most frequent consequences and/or combination of them were used for one-way ANOVA comparison of the no-show rate.

Commonly perceived reasons for no-show were reported by a large majority of respondents and they ranked them as the #1, #2 and #3 most commonly perceived reasons. The three reasons for no-show most frequently ranked #1 were: 34.3% “forgot”, 28.7% “illness” and 9.4% “scheduling conflict” (Figure 3). The three reasons for no-show most frequently ranked #2 were: 18.0% “illness”, 15.6% “scheduling conflict” and 13.8% “forgot” (Figure 4). Finally, the three reasons for no-show most frequently ranked #3 were: 14.7% “transportation issues”, 14.2% “forgot” and 12.3% “scheduling conflict” (Figure 5).

Independent T-test Comparisons

There was no significant difference ($p = 0.468$) in no-show rate between clinics that have a formal written no-show policy and those that do not (yes = $10.5\% \pm 7.68$, no = 9.70 ± 6.53). There was also no significant difference ($p = 0.498$) in no-show rate between urban and rural clinics (urban = $9.89\% \pm 6.59$, rural = 9.07 ± 6.55).

One-way ANOVA / Kruskal-Wallis Comparisons

Due to the inhomogeneous nature of the following, the Kruskal-Wallis test was used to assess the differences in no-show rate from among 1) eleven clinical settings, 2) varied presentation methods of no-show policy, 3) the top eight no-show prevention strategies, and 4) the top eleven consequences for no-show. Due to the homogenous nature of the following, three one-way ANOVA's were performed to assess the differences in no-show rate among 1) four US regions, 2) varied strictness of policy enforcement, and 3) varied perceptions of no-show policy effectiveness (Appendix C).

There was a significant difference in no-show rate among the different clinical settings ($p < 0.001$, Kruskal-Wallis) (Figure 6). Specifically, private clinics demonstrated a significantly lower no-show rate than hospital-campus ($p < 0.001$) and pediatric clinics ($p = 0.049$) (private = $7.81\% \pm 5.92$, hospital-campus = $14.53\% \pm 8.17$, pediatric =

12.86%±9.50). In addition, physician-owned clinics demonstrated a significantly lower no-show rate than hospital-campus clinics ($p = 0.002$; physician-owned = 8.97%±4.70).

There was no significant difference ($p = 0.485$, $F(3) = 0.816$, ANOVA) in no-show rate among the four U.S. regions (West = 10.40%±7.30, Midwest = 10.78%±7.65, South = 10.44%±7.46, Northeast = 9.36%±7.33). There was also no significant difference ($p = 0.124$, $F(4) = 1.816$, ANOVA) in no-show rate among the strictness of policy enforcement (do not enforce at all = 10.21%±7.51, enforce 25% of the time = 11.29%±9.70, enforce 50% of the time = 10.83%±6.71, enforce 75% of the time = 10.93%±7.45, enforce 100% of the time = 7.80%±5.85).

There was also no significant difference ($p = 0.171$, Kruskal-Wallis) between the no-show rate of clinics that only presented their policy verbally to patients (14.89% (±11.17)) and the no-show rate of clinics that presented their policy through multiple methods (written, verbal and posted in clinic) (9.21% (±6.53)).

Although the data suggests a trend, there was also no significant difference ($p = 0.056$, $F(4) = 2.312$, ANOVA) in no-show rate among therapists with different perceptions regarding the effectiveness of having a no-show policy (strongly agree in effectiveness = 8.44%±5.98, agree = 11.03%±7.90, neither agree nor disagree = 9.81±7.05, disagree = 10.66%±7.51, strongly disagree = 11.23%±8.52). However, there

was a significant difference ($p = 0.001$, Kruskal-Wallis) in no-show rate among the different combinations of no-show policy prevention strategies (Figure 7). For example, when comparing only offering a “phone call reminder” to employing multiple reminders (phone call, email and text message) along with requiring a 24 hour cancellation notice, those reporting use of more strategies had a significantly lower no-show rate ($p = 0.019$; “phone call only” = $13.8\% \pm 9.66$, multiple reminders and 24 hour notice = $6.07\% \pm 4.59$).

There was also a significant difference ($p < 0.001$, Kruskal-Wallis) in no-show rate among the different combinations of no-show policy consequences (Figure 8), specifically, methods that included “charge a fee” had a lower no-show rate than methods that included “discharge”, whether either one was coupled with reminders and warnings or not ($p = 0.049$; “charge a fee” = $8.85\% \pm 6.13$, “discharge” = $13.22\% \pm 8.67$).

DISCUSSION

The primary purposes of this study were to report national no-show rates, the presence and characteristics of no-show policies, and the most commonly perceived reasons for no-show in outpatient physical therapy. The nationwide mean no-show rate was 10.4%, the majority of respondents (52.5%) classified their clinic as “private”, and 77.4% of respondents have a formally written no-show policy in their clinic.

This 10.4% no-show rate is higher than the 6.2% mean no-show rate reported in 1987 by Schunk et al.¹¹ The higher national rate we report could be a result of a national sample and the inclusion of varying types of outpatient clinics, such as those classified as “hospital” or “pediatric”, which were both shown to have significantly higher no-show rates than “private” clinics. Either way, one in ten no-shows is discouraging and demonstrates the need for better understanding of the phenomenon.

In 1987 Schunk et al report 29% of outpatient physical therapy clinics had a formally written no-show policy, while our data from 2014 revealed that 77% of clinics throughout the United States had a formally written no-show policy. This increase in clinics developing written no-show policies may be related to ever changing insurance regulations and decreasing insurance reimbursement rates. For clinics to maximize productivity and to manage costs they must control no-show. It may also indicate

outpatient physical therapists are following trends among other healthcare providers to limit no-show.

The most commonly reported reason for no-show by the respondents was that the patient “forgot” their scheduled appointment, which is perhaps the best reason to implement a no-show policy with a reminder system. In fact, reasons reported within this study are congruent with reasons reported in studies of other health care providers.^{10,12,13} Patients forgetting their appointments appears to be within the clinic’s control and may be limited with a proactive, multi-method reminder system. Additionally, this same approach, which is discussed in further detail below, may limit the chance of patients no-showing due to a conflicting schedule, which is also one of the most commonly reported reasons for no-show. Future research could investigate no-show reasons from a patient perspective to validate or disprove these findings and to determine what factors contribute to patients forgetting their appointments.

The secondary purposes of this study were to understand whether practice settings, demographics, no-show prevention strategies, no-show consequences, and/or other no-show policy characteristics were related to the no-show rate in outpatient physical therapy practice.

Our data indicated that private clinics reported a significantly lower no-show rate than hospital-campus clinics and pediatric clinics. These results may suggest that hospital-campus and pediatric clinics do not consider no-show a high priority or that they have less influence over whether a patient shows or not. In addition, hospitals and pediatric outpatient clinics generally serve more at risk populations who may also be dependent on others for scheduling and transportation.¹⁴ It may also suggest that owners of private clinics are more likely to allocate time and resources for no-show prevention in order to maintain productivity and revenue since it more directly affects their personal income. Because we had a majority of respondents from private practices, future research may want to focus on no-show in other practice settings in order to understand and reduce it across all types of clinical settings.

Employing a multi-method reminder system along with requiring a 24 hour cancellation notice was associated with a significantly lower no-show rate when compared to only using phone call reminders. When considering no-show policy prevention strategies, a multi-faceted approach including multiple reminders via phone, email, and text, together with requiring a 24-hour cancellation notice, a clinic can reduce no-show when compared to only using a phone call to remind patients of their appointment. The findings from this study are in agreement with two previous studies from other disciplines and anecdotal evidence in physical therapy finding that a

combination of methods to prevent no-shows was most effective.^{12,15,16} These findings, when also considering the most commonly perceived reasons for no-show may suggest that a significant reduction in no-show could be obtained by simply reminding patients multiple times and with multiple methods of their appointment.

In addition, no-show consequences that included a fee were associated with a significantly lower no-show rate than those that included the possibility of discharge. This suggests that patients feel more motivated by being charged a fee than they do by being discharged. It could also suggest that patients assume clinics are more likely to follow through with charging a fee than they are with discharging them. Future research regarding patients' perceptions of no-show consequences would help to better understand these results. Other factors such as demographic location, strictness of policy enforcement, policy presentation methods, and clinicians' perceptions did not significantly impact the no-show rate; however, it is possible that a type 2 error was committed due to the return rate of surveys, non-random sampling, and a small sample size for a national target population. These factors may also have contributed to information bias in the data and hence the results.

The fact that there was no significant difference in no-show rate among geographic regions in the United States may indicate that outpatient physical therapy no-

show policies are regionally consistent and/or that patients typically behave in the same manner no matter the region.¹⁰ Also, due to limited evidence regarding no-show in outpatient physical therapy, clinics may have been forced to adopt policies similar to other medical disciplines resulting in the similarities. Future research could investigate patients' reasons for no-show specific to geographic locations in order to develop more targeted no-show prevention strategies and policies.

There was also no significant difference in no-show rate between clinics that have a formal written no-show policy and those that do not; however, there was a trend to suggest that clinics with more prevention strategies and specific consequences may have a lower no-show rate. Although not significant as well, when it comes to policy presentation, clinics that used a combination of methods, such as verbal, written, and posted signs had a lower mean no-show rate than those that only verbally relayed the policy. This could be attributed to the fact that as information is presented multiple times, and in various ways, it has a greater effect on the learner than a single exposure. In addition, it is worth noting that clinics who reported they enforced their policy 100% of the time had a mean no-show rate of 7.80%, while those that enforced it only 25% of the time had a mean no-show rate of 11.29%; however, this difference was also not statistically significant. These non-significant findings might also be due to the sample size in the study.

Even though policy characteristics and the no-show rates associated with them are diverse, the data presented above suggests that multiple proactive preventative strategies and financial consequences for no-show may reduce no-show, particularly by reminding forgetful patients. Another important area for future research is investigation of the no-show rate for follow-up visits compared to the rate for initial evaluations.

CONCLUSIONS

A nationwide mean no-show rate of 10.4% in outpatient physical therapy, potentially preventable reasons for no-show such as patients forgetting or scheduling conflicts, and significant findings regarding specific strategies and consequences that limit no-show indicate that no-show policies are needed and useful. We recommend a proactive policy including multiple methods of reminders (email, phone calls, and text messages), requiring that the patient give 24-hour notice of cancellation, and if they fail to do so consequences should include a financial penalty.

APPENDIX A: QUALTRICS SURVEY

1. Are you a Physical Therapist practicing primarily in an outpatient setting? (Yes or No)
2. What state is your clinic located? (All 50 states and the District of Columbia)
3. How would you classify your clinic? (Select all that apply)
 - Urban
 - Rural
 - Privately Owned
 - Physician Owned PT Practice
 - In Hospital Setting
 - Pediatrics
 - Other (Please specify)
4. How many Physical Therapists are considered full time at your clinic?
5. Does your clinic have a written no-show policy? (Yes or No)
6. I believe a written no-show policy is an effective tool for maximizing productivity? (5-level Likert scale)
7. How often to you enforce the no-show policy?
 - Don't Enforce
 - 25% of the time
 - 50% of the time
 - 75% of the time
 - 100% of the time
8. How is your policy presented to the patient? (Select all that apply)
 - Written form
 - Verbal notification
 - Posted in the clinic
 - Other (explain)
9. Are there any consequences for "no-showing" in your policy? (Yes or No)
10. What are those consequences?
 - Given a warning
 - Charged a fee
 - Discharged
 - Reminded of policy
 - Other (explain)
11. Does your policy include any prevention strategies? (Yes or No)
12. What are those strategies? (Select all that apply)
 - Phone call reminders
 - Email reminders
 - Text message reminders
 - Request a 24 hour cancellation notice
 - Consequence reminders
 - Other (explain)
13. Has your no-show policy proven to be effective? (Yes or No)
14. What are other characteristics of your policy not described in the questions above? (Open answer)
15. Does your clinic keep track of no-shows? (Yes or No)
16. How does your clinic define a "no-show"?
 - Patient does not call or show up
 - Any missed appointment
 - Patient gives less than 24hr notice of cancellation
 - Other (explain)
17. What is your PERSONAL no-show rate?
18. What is your CLINIC's no-show rate?
19. How does your clinic define a "no-show" that the above rate(s) is based on?
 - Patient does not call or show up
 - Any missed appointment
 - Patient gives less than 24 hour notice of cancellation
 - Other (explain)
20. What are the three most common reasons for a patient to "no-show"?
 - Illness
 - Busy
 - Transportation
 - Weather
 - Forgot
 - Feeling better
 - Scheduling conflict
 - Emergency

APPENDIX B: FIGURES

Figure 1. Response frequency based on United States region

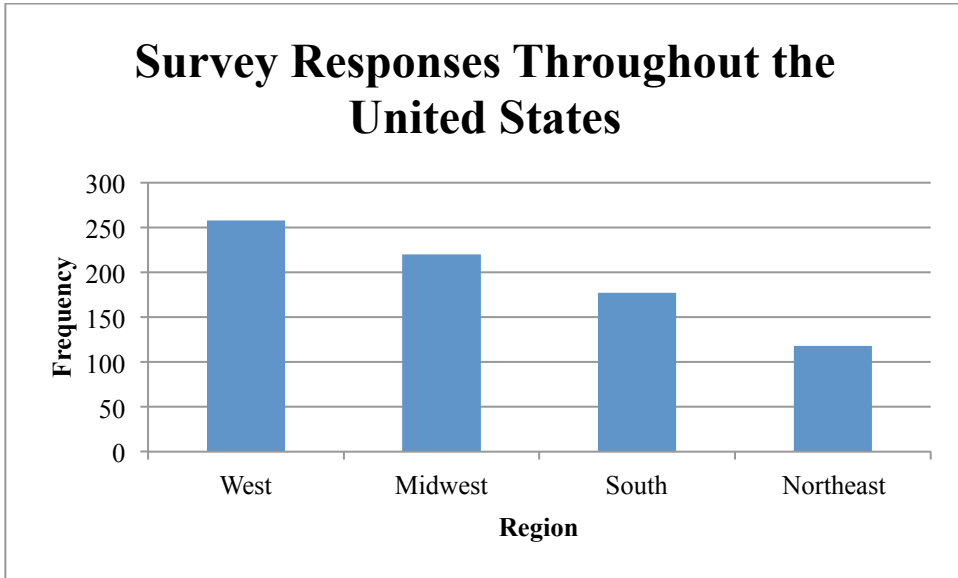


Figure 2. Response frequency based on clinical Setting

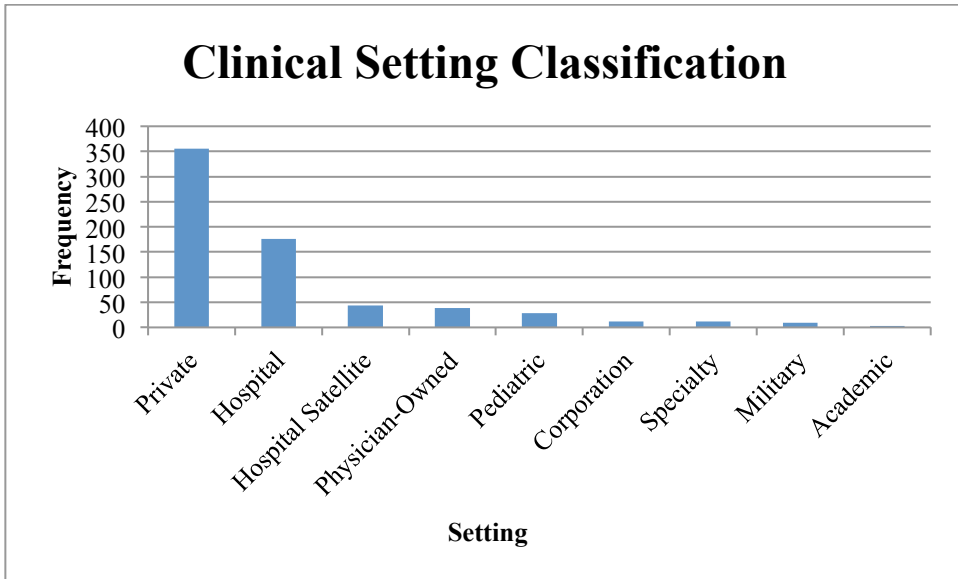


Figure 3. Reasons Ranked #1 for No-Show Reported by Physical Therapists

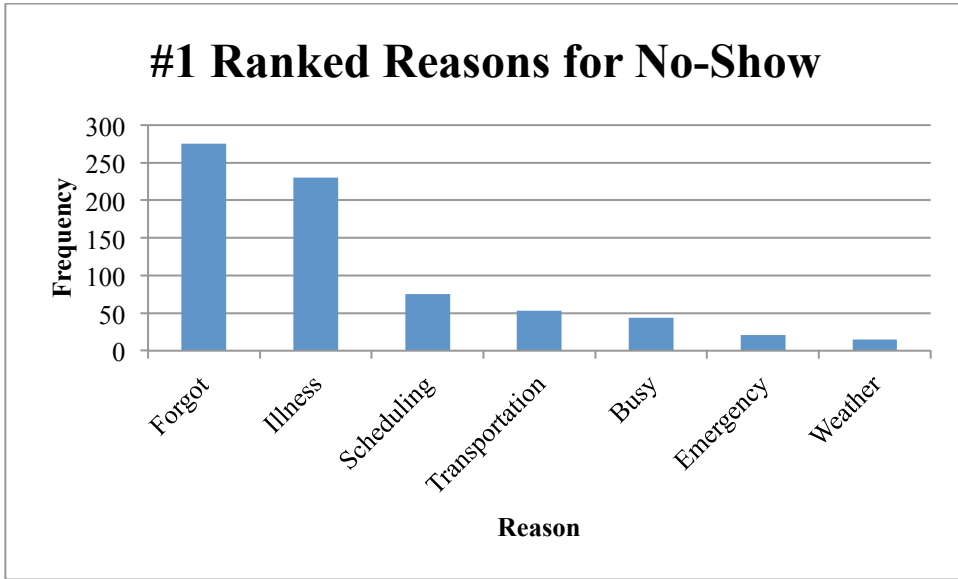


Figure 4. Reasons Ranked #2 for No-Show Reported by Physical Therapists

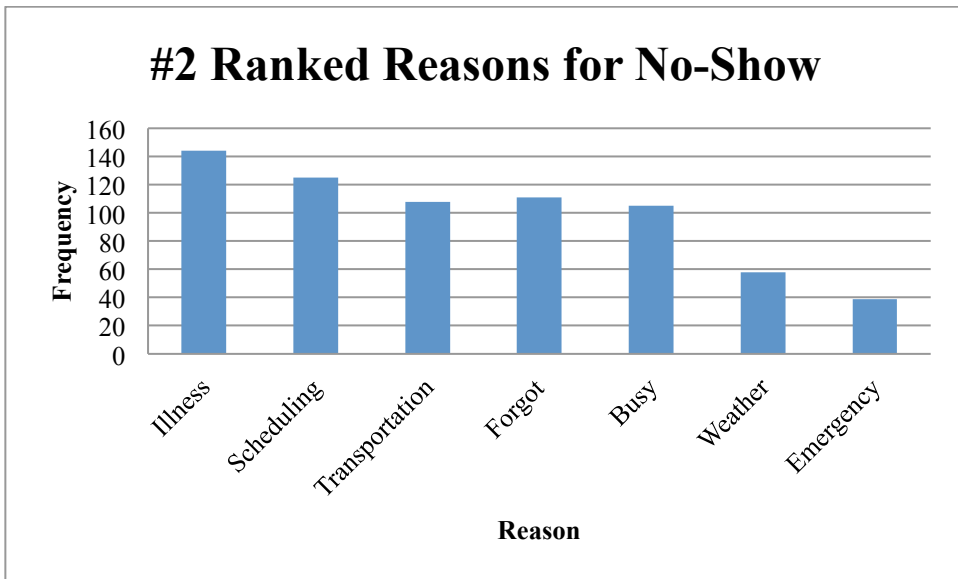


Figure 5. Reasons Ranked #3 for No-Show Reported by Physical Therapists

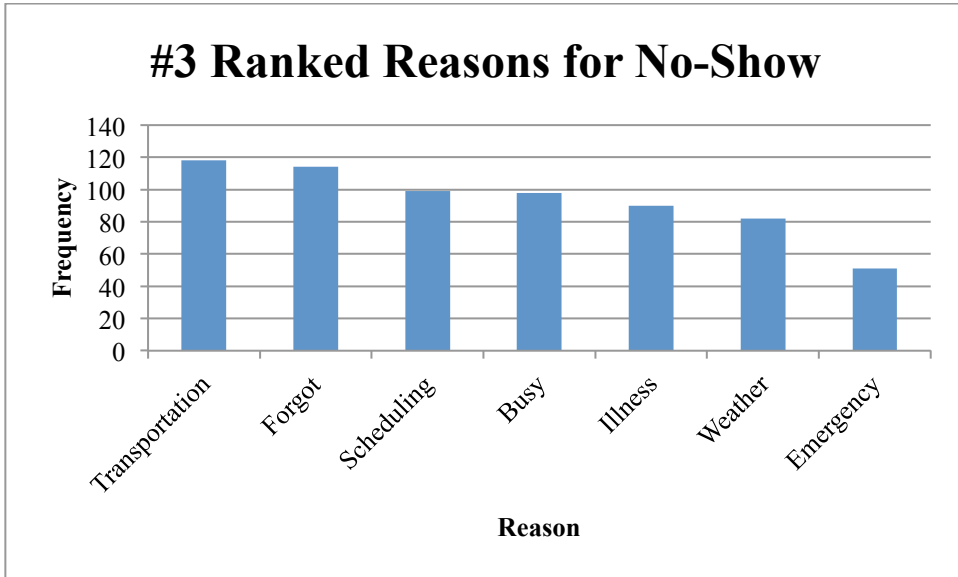


Figure 6. No-Show Rate Among Different Clinical Settings

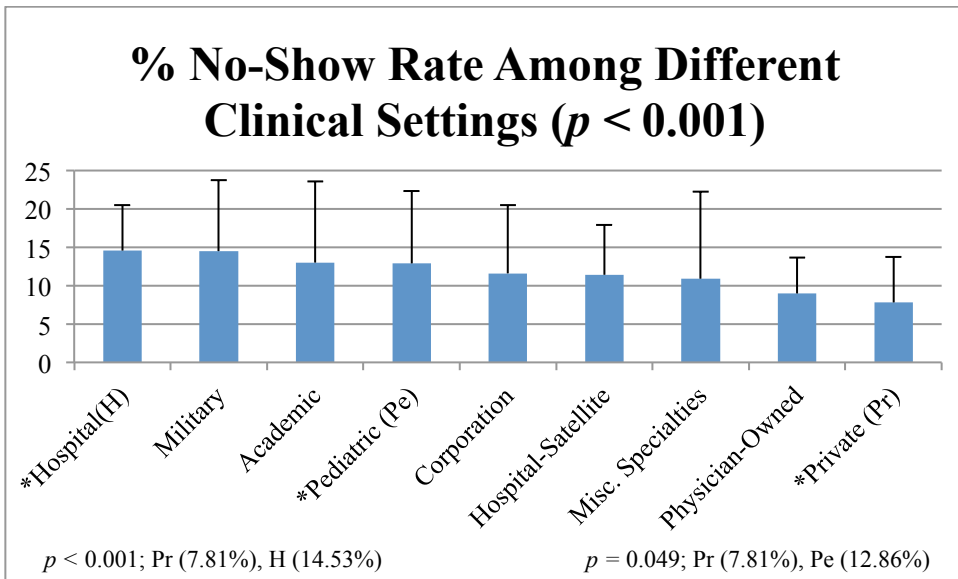


Figure 7. No-Show Rate Among Different Prevention Strategies

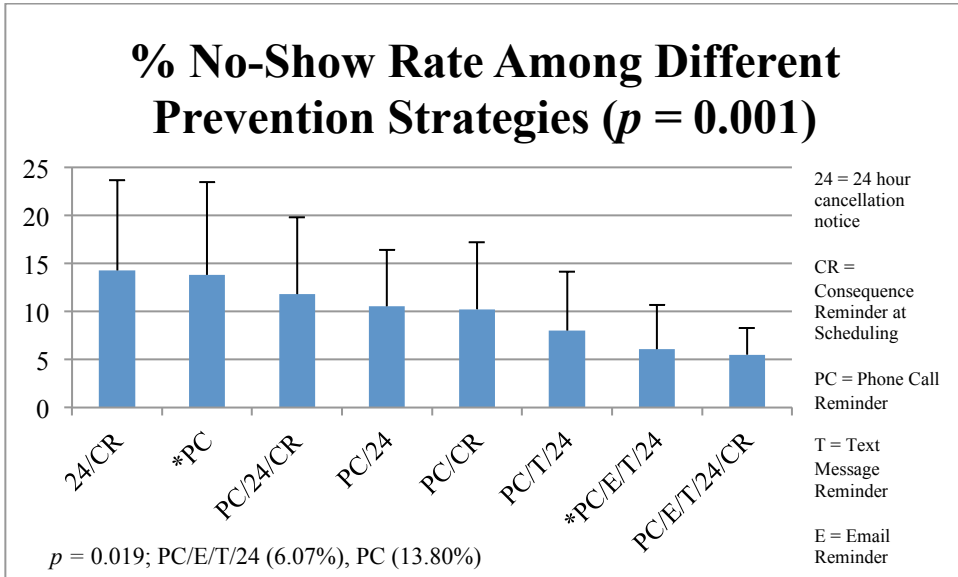
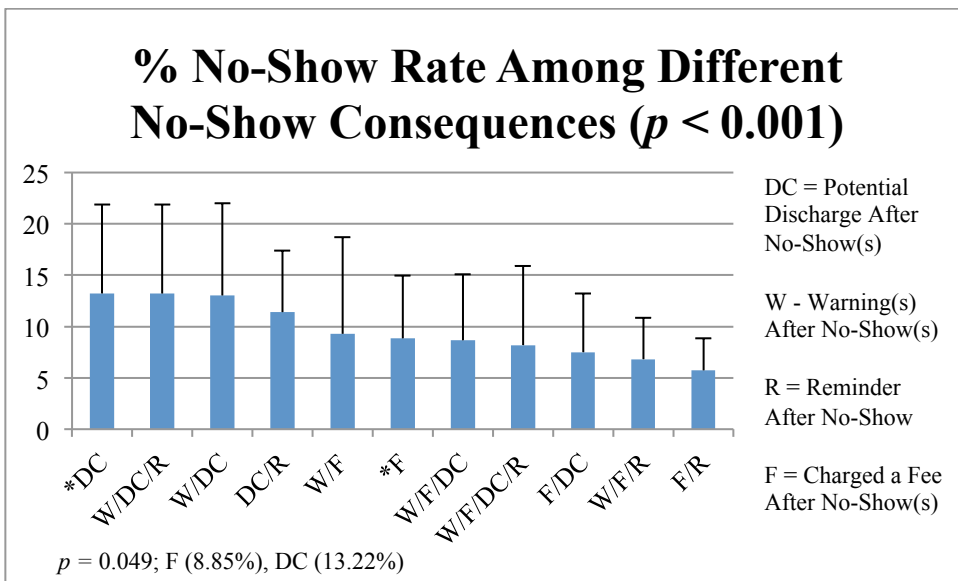


Figure 8. No-Show Rate Among Different No-Show Consequences



APPENDIX C: ONE-WAY ANOVA / KRUSKAL-WALLIS COMPARISONS

Independent Variable*	Test of Homogeneity of Variances	ANOVA	Kruskal-Wallis Test	Post-Hoc Analysis with Bonferroni	Mean No-Show rate: Significant Factors
11 Clinical Classifications	p < 0.001	NA	p < 0.001	p < 0.001	Private = 7.81% Hospital = 14.53%
				p = 0.049	Private = 7.81% Pediatric = 12.86%
4 US Regions	p = 0.782	p = 0.485	NA	NA	NA
Strictness of Policy Enforcement	p = 0.306	p = 0.124	NA	NA	NA
Presentation Methods of Policy	p = 0.015	NA	p = 0.171	NA	NA
Perception of No-Show Policy Effectiveness	p = 0.209	p = 0.056	NA	NA	NA
Top 8 No-Show Prevention Strategies	p = 0.048	NA	p = 0.001	p = 0.019	PC only = 13.80% PC/E/T/24 = 6.07%
Top 11 Consequences for No-Show	p = 0.006	NA	p < 0.001	p = 0.049	DC = 13.22% Fee = 8.85%
<p>KEY: Non-par = non-parametric 24 = 24 hour cancellation notice required T = Text Message Reminder DC = threat of discharge for no-show(s) NA = not applicable E = Email reminder PC = Phone Call Reminder Fee = threat of a fee for no-show(s)</p>					

***Dependent Variable = clinic no-show rate**

REFERENCES

1. Lacy NL, Paulman A, Reuter MD, Lovejoy B. Why we don't come: patient perceptions on no-shows. *Ann Fam Med*. 2004;2(6):541-5.
2. Moore CG, Wilson-Witherspoon P, Probst JC. Time and money: effects of no-shows at a family practice residency clinic. *Fam Med*. 2001;33(7):522-7.
3. Pesata V, Pallija G, Webb AA. A descriptive study of missed appointments: families' perceptions of barriers to care. *J Pediatr Heal Care*. 1999;13(4):178-82.
4. Berg BP, Murr M, Chermak D, et al. Estimating the cost of no-shows and evaluating the effects of mitigation strategies. *Med Decis Making*. 2013;33(8):976-85.
5. Nuti L a, Lawley M, Turkcan A, et al. No-shows to primary care appointments: subsequent acute care utilization among diabetic patients. *BMC Health Serv Res*. 2012;12:304.
6. Mbada CE, Nonvignon J, Ajayi O, et al. Impact of missed appointments for outpatient physiotherapy on cost, efficiency, and patients' recovery. *Hong Kong Physiother J*. 2013:1-6.
7. El-Tantawy C, Di Re A, Frare G. The challenge of managing patient cancellation and non-attendance in an outpatient physiotherapy clinic. *Physiother Canada*. 2000;52(2):163-167.
8. Kaplan-Lewis E, Percac-Lima S. No-show to primary care appointments: why patients do not come. *J Prim Care Community Health*. 2013;4(4):251-5.
9. Moses R a, Dargosa LM, Hyams ES, Steinberg PL, Pais VM. Failing to follow up: predicting patients that will "no-show" for medically advised imaging following endourologic stone surgery. *Can J Urol*. 2013;20(5):6939-43.
10. Dervin J. The no-show patient in the model family practice unit. *J Fam Pract*. 1978;7(6):1177-1180.

11. Schunk C, Saunders C, Allen S, et al. The PT outpatient no-show policy; does it exist? *Clin Manag Phys Ther*. 1987;7(1):10-14.
12. Stephens S. Reducing cancellation & no-show rates. *PT Mag Phys Ther*. 2005;13(3):32-38.
13. Fenger M, Mortensen EL, Poulsen S, Lau M. No-shows, drop-outs and completers in psychotherapeutic treatment: demographic and clinical predictors in a large sample of non-psychotic patients. *Nord J Psychiatry*. 2011;65(3):183-91.
14. Lehmann TNO, Aebi a, Lehmann D, Balandraux Olivet M, Stalder H. Missed appointments at a Swiss university outpatient clinic. *Public Health*. 2007;121(10):790-9.
15. Henderson R. Encouraging attendance at outpatient appointments; can we do more? *Scott Med J*. 2008;53(1):9-12.
16. Cameron S, Sadler L, Lawson B. Adoption in open-access scheduling in an academic family practice. *Can Fam Physician*. 2010;56:906-911.

Curriculum Vitae

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Education

- Doctorate of Physical Therapy. University of Nevada-Las Vegas (UNLV). Anticipated May 2015
 - Extraordinary Coursework: Biomechanics, Vestibular Rehab, Manual Therapy, Pain Science, Wound Care
- Secondary Education for Licensure. Weber State University (WSU). Ogden, UT. May 2009
- Bachelor of Science. Physical Education and Psychology. WSU. Ogden, UT. May 2008

Work Experience

- Summerlin Hospital. Summerlin, NV. Inpatient Wound Care. April-May 2015
- The Orthopedic Specialty Hospital “TOSH” – Intermountain Health Care (IHC). Salt Lake City, UT. Orthopedic Inpatient Acute Care. January-April 2015
- Mountain Land Physical Therapy. Holladay, UT. Outpatient and Sports Physical Therapy. October-December 2014
- Life Care Centers of America – Garden Terrace. Holladay, UT. Skilled Nursing Facility / Long-term Rehabilitation. July-September 2014
- Southern Utah Physical Therapy. Cedar City, UT. Rural Outpatient Physical Therapy. July-August 2013
- Ogden Work-Med. IHC. Ogden, UT. Physical Therapy Aide. April 2011-May 2012
- Ogden Clinic. Ogden, UT. Outpatient Physical Therapy observation 250 hours. January 2011-April 2011
- McKay Dee Hospital. IHC. Ogden, UT. Inpatient Acute Care observation: pediatrics, neuro-rehabilitation, intensive care unit. January 2011 – April 2011
- Ogden City School District. Ogden, UT. Part-time Teacher and Coach. August 2008-June 2010
- Family Total Health Club. Harrisville, UT. Personal Trainer. October 2008-August 2009

Professional Experience

- UNLV Physical Therapy Doctoral Student Research Presentations. May 2013, 2014, 2015
- In-service presentation on Femoral Acetabular Impingement. April 2015
- Combined Sections Meeting (CSM) in Indianapolis, IN. February 2015
- In-service presentation on Pain Science Education. August and November 2014
- National Student Conclave in Milwaukee, WI. October 2014
- CSM in Las Vegas, NV. January 2014
- Graduate Assistantship at UNLV with Dr. Szu-Ping Lee. Fall 2013-Spring 2014
- UNLV Graduate College Teaching Certificate Coursework. Spring 2014
- CSM in San Diego, CA. January 2013
- American Physical Therapy Association (APTA) Membership. 2012-current
- APTA – Sports Section Membership. 2013-current
- In-service presentation on taping techniques for plantar fasciitis. July 2013
- American Heart Association – CPR/AED certification. April 2013

Research Experience

- Personal Doctoral Research. Defense Date May 16, 2015
 - Bokinskie JP, Johnson PP, Mahoney, TP, Young D. No-show by patients for outpatient physical therapy: a national survey.
- Poster presentation at CSM in Indianapolis, IN. Feb 2015
 - Bokinskie JP, Johnson PP, Mahoney, TP, Young D. No-show by patients for outpatient physical therapy: a national survey.
- UNLV Graduate College Research Certificate awarded Spring 2015
- Graduate Assistantship Research Experience. Fall 2013-Spring 2014
 - Data Analysis - Lee SP, Dufek J, Mercer J. Influence of Foot Strike Pattern on Lower Back Muscle Activation during Running: Clinical Implications for Preventing Lower Back Pain in Runners.
 - Literature review - Lee SP, Contreras D, Denton D. Examination of Test Condition Variables on the Test-Retest Reliability of the Timed Up-and -Go Test in Geriatric Population.
- Collaborative Institutional Training Initiative. Human Research Curriculum completed February 2013
- Critically Appraised Topic for UNLV Physical Therapy webpage. July 2012

- Bokinskie JP, Pyfer J. Preventing acute injuries in High School Athletes with a Balance Training Program.
- Undergraduate Research Publication. Spring 2008
 - Bokinskie JP. A Psychological Analysis of College Basketball Players. *ERGO*. 2008;2:9

Awards and Honors

- “Social Responsibility” Award presented by the Global Health Special Interest Group and the Health Policy and Administration Section of the APTA for poster presentation at CSM 2015
 - Bokinskie JP, Johnson PP, Mahoney, TP, Young D. No-show by patients for outpatient physical therapy: a national survey.
- Sigma Alpha Pi - The National Society of Leadership and Success Inductee. Fall 2014
- UNLV Physical Therapy Departmental Scholarships. Spring 2013, 2014, 2015
- UNLV Physical Therapy Student Opportunity Research Grant. Summer 2013
 - Bokinskie JP, Johnson PP, Mahoney, TP, Young D. No-show by patients for outpatient physical therapy: a national survey.
- The Institute of Private Practice Physical Therapy Research Grant. July 2013
 - Bokinskie JP, Johnson PP, Mahoney, TP, Young D. No-show by patients for outpatient physical therapy: a national survey.
- “Most Outstanding Graduate” award from Health Promotion Human Performance Department at WSU. Spring 2008
- Graduated Cum Laude at WSU. Spring 2008

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- Bachelor of Science. Food Science. BYU. Provo, UT. Dec 2011
 - Minor: Chemistry

Work Experience

- Advanced Physical Therapy, St. George, UT. Outpatient and Vestibular Therapy. Jan-Apr 2015
- Utah Valley Regional Medical Center – Intermountain Health Care. Provo, UT. Transitional Rehabilitation Unit. Oct-Dec 2014
- VA Salt Lake City Medical Center. Salt Lake City, UT. Inpatient Acute Care. July-Sept 2014
- Tru Physical Therapy. Henderson, NV. Outpatient and Sports Therapy. July-Aug 2013
- Utah State Hospital. Provo, UT. Physical Therapy Aide. Jan 2011-May 2012

Professional Experience

- UNLV Physical Therapy Doctoral Student Research Presentations. May 2013, 2014, 2015
- In-service presentation on Hip Kinematics and Regional Interdependence of the Knee. Apr 2015
- Combined Sections Meeting (CSM) in Indianapolis, IN. Feb 2015
- In-service presentation on Pre-Rehabilitation for TKA and THA. Nov 2014
- Combined Sections Meeting (CSM) in Las Vegas, NV. Jan 2014
- Graduate Assistantship at UNLV with Dr. Merrill Landers. Fall 2013-Spring 2014
- UNLV Graduate College Teaching Certificate Coursework. Spring 2014

- Combined Sections Meeting (CSM) in San Diego, CA. Jan 2013
- American Physical Therapy Association (APTA) Membership. 2012-current
- APTA – Orthopedic Section Membership. 2013-2014
- APTA – Neurological and Cardiopulmonary Section Membership. 2014-current
- APTA – Research Section Membership. 2012-current
- In-service presentation on EMG Biofeedback s/p TKA. July 2013
- American Heart Association – CPR/AED certification. Apr 2013

Research Experience

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 - Bokinskie JP, Johnson PP, Mahoney, TP, Young D. No-show by patients for outpatient physical therapy: a national survey.
- UNLV Graduate College Research Certificate awarded Spring 2015
- Graduate Assistantship Research Experience. Fall 2013-Spring 2014
 - Data Analysis and Collection – Landers M, Lopker, M, Newman, M, Gourlie, R, Sorenson, S, Johnson, PP. Characteristics of subjects who exhibit behavior due to a fear of falling in Parkinson’s disease
 - Data Analysis and Collection – Landers M, Johnson PP. A survey of individuals with Parkinson’s disease on their balance and falls: a guide for patient-centered research.
- Critically Appraised Topic for UNLV Physical Therapy Webpage. July 2012
 - Johnson PJ, McConnell, JP, Clement, M, Kennedy S. Anterior Cruciate Ligament (ACL) Reoconstruction Therapy: Aquatic vs. Land-based.

Awards and Honors

- “Social Responsibility” Award presented by the Global Health Special Interest Group and the Health Policy and Administration Section of the APTA for our poster presentation at CSM 2015
 - Bokinskie JP, Johnson PP, Mahoney, TP, Young D. No-show by patients for outpatient physical therapy: a national survey.
- Phi Kappe Phi - The Honor Society Inductee. UNLV Fall 2014
- UNLV Physical Therapy Student Opportunity Research Grant awarded Summer 2013

- Bokinskie JP, Johnson PP, Mahoney, TP, Young D. No-show by patients for outpatient physical therapy: a national survey.
- The Institute of Private Practice Physical Therapy Research Grant awarded July 2013
 - Bokinskie JP, Johnson PP, Mahoney, TP, Young D. No-show by patients for outpatient physical therapy: a national survey.
- Phi Eta Sigma – National Freshman Honor Society Inductee. BYU Fall 2008

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 - Minors: Chemistry and Japanese
- Associate of Science. Snow College. Ephraim, UT. May 2007

Work Experience

- Cleveland Clinic Lou Ruvo Center for Brain Health. Las Vegas, NV. Neurological Rehabilitation. Jan-Apr 2015
- Spring Valley Hospital. Las Vegas, NV. Inpatient Acute Care. Oct-Dec 2014
- VA Southern Nevada Healthcare System. North Las Vegas, NV. Inpatient Acute Rehabilitation. July-Sept 2014

- Peak Physical Therapy. Spanish Fork, UT. Outpatient and Sports Therapy. July-Aug 2013

Professional Experience

- UNLV Physical Therapy Doctoral Student Research Presentations. May 2013, 2014, 2015
- Combined Sections Meeting (CSM) in Indianapolis, IN. Feb 2015
- In-service presentation on interpretation of lab values. Dec 2014
- In-service presentation on outcome measures for inpatient population. Sept 2014
- Combined Sections Meeting (CSM) in Las Vegas, NV. Jan 2014
- Graduate Assistantship at UNLV with Dr. Daniel Young and Dr. Kai-Yu Ho. Fall 2013-Spring 2014
- Combined Sections Meeting (CSM) in San Diego, CA. Jan 2013
- American Physical Therapy Association (APTA) Membership. 2012-current
- APTA – Neurological and Acute Care Section Membership. 2014-current
- APTA – Research Section Membership. 2012-current
- In-service presentation on Graston and ASTM. July 2013
- American Heart Association – CPR/AED certification. Apr 2013

Research Experience

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- The Institute of Private Practice Physical Therapy Research Grant awarded July 2013
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- Summa Cum Laude. Utah State University. May 2012