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USING SHORT MESSAGE SERVICES (SMS) TO REDUCE NO-SHOW RATES AN EVIDENCE-BASESD PRACTICE PROJECT

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UNIVERSITY OF SAN DIEGO

Hahn School of Nursing and Health Science

DOCTOR OF NURSING PRACTICE

USING SHORT MESSAGE SERVICES (SMS) TO REDUCE NO-SHOW RATES: AN

EVIDENCE-BASESD PRACTICE PROJECT

by

Matthew Wesley Rocklage

A Doctor of Nursing Practice Portfolio presented to the

FACULTY OF THE HAHN SCHOOL OF NURSING AND HEALTH SCIENCE

UNIVERSITY OF SAN DIEGO

In partial fulfillment of the

requirements for the degree

DOCTOR OF NURSING PRACTICE

May / 2020

Dr. Michael Terry, Faculty Advisor

Alexandra Sietsma DNP, Clinical Mentor

Table of Contents

Acknowledgments

I thank my father, for whom without his hard work and dedication in life, I would have not been afforded this opportunity to better myself and pursue this level of achievement. Your work ethic, your dedication, and your generosity have inspired me to seek a great level of achievement in life, I love you incredibly, thank you for being my father. To my loving wife, for supporting an older student eager to better himself and strive for what's best for our family, and for whispering words of encouragement and love, thank you I love you.

I thank my faculty advisor, Dr. Michael Terry, for showing me the way, and keeping my head above water during this journey. I thank my clinical preceptor, the incredibly busy and talented Alexandra Sietsma, for her help and support with the continuation of this project. I thank Janelle Kistler for all her help with my staff integrations and data collection, especially amongst her already busy schedule, she was incredibly helpful and always wore a smile. I thank Dr. Steve Koh, for championing this projects continuation to his residents, and the therapist at the clinic, furthering its reach and positive impact at the clinic. I thank all the staff and students at the University of San Diego who have helped and guided me along the way. I thank Kate Todaro for helping me stay the course and meet all the requisite deadlines.

Opening Statement

Purpose in Pursuing the DNP

My motivation in pursuing the doctoral degree is motivated both internally and externally, and this drive is a fire that needs to be continuously nurtured and fed. I find the journey to wisdom is not one with a destination, it is continuous and ongoing. I have always adored and reveled in living in a grey area formed of untethered design, where concepts and understanding are ever evolving. I am drawn by a powerful and unyielding force towards understanding the human mind. As a nurse compassion and caring are requisite and part of a fundamental foundation to who I am, and due to the ever persistent stigma around mental health, change will not be made by throwing electronic twitter responses or out-of-proportion news stories. Change will come from my compassion to help. In order for me to bear the weight, break the stigma, help those who are shunned, and bring awareness, I must first prepare myself. Hence this pursuit of the doctoral degree as a psychiatric nurse practitioner. During this pursuit for knowledge I have been eager to feed my thirst, to expand my toolbox to help as many patients as I can, and most importantly of all, understand that when my journey at the University of San Diego concludes, my education does not. The doctoral degree as a psychiatric nurse practitioner, while a profound achievement, does not mean I am done. For myself and for the betterment of all mental health patients, I will continue to pursue knowledge, advocate for policy change and champion my patients care.

Documentation of Mastery of DNP Program Outcomes

Final Manuscript

Using Short Message Services (SMS) to Reduce No-Show Rates: An Evidence-Based

Project.

Matthew Wesley Rocklage

Abstract

Background: No-shows (NS) are correlated with reduced treatment efficacy, increased financial burden on medical institutions, and early treatment termination for therapy. NS occur for a variety of reasons and appointment compliance within outpatient mental health clinics has a wide variance with clinics reporting no-shows ranging from 15% to 50%. This section of the project is a continuation started by an earlier USD DNP student Fernando Serrano, in which the projects aims were expanded beyond the participation of nurse practitioners only to now include marriage family therapists (MFT), psychologists and medical residents, and to address the NS rates clinic-wide. One year after the initial project was implemented, the year-to-date no-show rates for the entire clinic was 11.40%. For residents it was 12.58%, for nurse practitioners (NP) it was 5.71%, and for MFTs and psychologists it was 12.82%.

Purpose of the Project: Providers and staff will offer patients the ability to sign up for Short Message Services (SMS) appointment reminders. Patients who agree to SMS will receive text messages to their phone with an appointment reminder on the day prior. The goal is to increase SMS use with patients and reduce missed appointments (MA) by 20% clinic-wide and within each group of clinicians.

Framework/EBP Model: The IOWA model was used for this project.

Evidence-Based Intervention: With continual reduced cost and substantial increase in mobile phone technology usage by the general population, SMS has become a new mainstay for direct communication. SMS appointment reminders have been successfully implemented in mental health, radiology, physical therapy, and dentistry with each setting experiencing a significant decrease in no-show rates.

Implementation: After clinic and university IRB approval, SMS teaching material, printouts and reminder notes for providers ~~were~~ prepared. Qualitative statements from the three disciplines about attitude and barriers regarding SMS collected before, during and after the project's implementation. Pre-data collection included surveying MA rates among all clinic patients for the previous 8 weeks.

15-30-minute teaching sessions took place with psychiatric mental health nurse practitioners (PMHNP), PMHNP students, MFT's, psychologists, residents, and administration staff. SMS "How to" flyers posted in provider communal areas and in each provider room to instruct and remind providers and staff to offer SMS reminders to patients. Data was collected weekly for 8 weeks examining MAs and provider/staff SMS compliance with offering SMS to patients. Data was continually collected on secured hard drives on excel spreadsheets. Data was generated from reports without any patient identification information.

Evaluation Results: We expected at least 50% of the providers/students/staff would report they are offering SMS to patients at the end of the first 4 week and at least 75% by the end of 8 weeks. We predicted at least 70% SMS signup with patients and a reduction in no-show rates by 20% upon project completion.

Implications for Clinical Practice: We anticipated all providers and staff at the clinic would offer SMS sign up as a part of standard policy and procedure. As SMS sign ups grows, NS will decrease. With a further decrease in clinic wide no-show rates, this program could possibly be rolled out to other UCSD clinic sites.

Conclusions: The brevity, efficiency and cost-effectiveness of SMS allows patients to quickly be reminded of upcoming appointments with the choice to confirm or reschedule

as needed. SMS helps increase appointment attendance while reducing provider

nonproductive hours from no-shows.

Using Short Message Services (SMS) to Reduce No-Show Rates: An Evidence-Based

Project.

Description

No-shows (NS) or Missed Appointments (MAs) within the healthcare

environment have ever increasing effects on patient care beyond monetary loss

(Filippidou, Lingwood, & Mirza, 2014). No-shows in mental health care, are highly

correlated with reduced treatment efficacy, delayed care, negative health outcomes and

early termination of treatment (DeFife JA, Conklin CZ, Smith JM, & Poole J, 2010).

Scheduled appointment compliance rates within various outpatient settings ~~has~~ have a

wide variance with clinics reporting no-show rates as low as 15% to as high as 50% (Car

J, Gurol-Urganci I, de Jongh T, Vodopivec-Jamsek V, & Atun R. 2013). No-shows occur for

a variety of reasons including, but not limited to severity of illness, financial/geographical

constraints, transportation issues (Filippidou, Lingwood, & Mirza, 2014). The most

common reason given for nonattendance was failure to remember the scheduled

appointment entirely (Andel, E., Been, S. K., Rokx, C., & van der Ende, M. E., 2016).

Fortunately, today's electronic health records (EHR), have built in technology that

can aid patients in remembering their appointments. Technology today has afforded

human civilization a more rapid and effective way to communicate (Klasnja P, Pratt W,

Klasnja, P., & Pratt, W. 2012). With the proliferation of smart phones on the market and

their ease of use, Short Message Services (SMS) access has allowed a new way for

patients and providers to communicate (Ronen, K, et al. 2018). A meta-analysis of

studies between 2005 and 2015 that investigated the effect of utilizing SMS reminders to

reduce no-show rates, concluded that SMS appointment reminders are an effective

method in improving appointment attendance (Boksmati, N., Butler-Henderson, K., Anderson, K., & Sahama, T., 2016). It is also important to note, that while socioeconomic factors may play a role in the owning of a smart phone, even populations such as the homeless are afforded access to these smart phone devices capable of SMS services through outreach programs in their local community (Moczygemba, L. R, et al. 2017). In fact, mobile SMS are well received in the homeless population and are preferred way to communicate in this mobile population (Asgary, R., et al., 2015).

Today SMS contact and services are utilized to help patients with a variety of issues from medication adherence, refill reminders and appointment reminders (Car J, Gurol-Urganci I, de Jongh T, Vodopivec-Jamsek V, & Atun R., 2013). SMS appointment reminders are being used to remarkable success in countries around the world. In England the major source of missed appointments appears to be insufficient communication and SMS reminders are viewed as providing an instant and asynchronous means of communication that protects patient privacy (Car J, Ng C, Atun R, & Card A., 2008). In Saudi Arabia after a randomized control trial showed significant improvement with SMS reminders, patients who took part in the trial preferred to continue to receiving SMS reminders in the future (Youssef, A., 2014). In Nigeria they applied SMS reminders to mental health to address patient attendance with first-episode psychosis who were seeking treatment and saw results that reduced the missed appointment rate by half (Thomas, I. F., Lawani, A. O., & James, B. O., 2017). Even in different disciples such as Dentistry in Scotland, when trialing SMS appointment reminders the number of no-shows reduced significantly (Perry JG., 2011).

In the modern world today's patients highly prefer SMS appointment reminders over automated and live voices calls, this holds especially paramount for the younger generation and technologically proficient groups (Narring, F., et al. 2013). With the mobile phone penetration rising every year, the utilization of SMS reminders with its cheaper cost and lower use of resources only increase value as a tool to reduce missed appointments (Junod Perron, N, 2013).

This is the second version of this project, originally rolled out and implemented in the spring of 2019 by Fernando Serrano, DNP at Outpatient Psychiatric Services Hillcrest (OSPH) run by the University of California San Diego (UCSD). OPSH serves the community as an outpatient mental health clinic servicing private and publicly insured patients who suffer from a variety of mental health disorders. At OPSH before initial rollout of this project in spring of 2019, the average no-show rate for patients seeing Psychiatric Mental Health Nurse Practitioners (PMHNPs) averaged 18%. At the end of 2019, that rate dropped to 5%. The first round of the project was a success. For the second round of the project, the application was expanded to all disciplines within the clinic. At the beginning of 2020, when the second round began, no-show rates for PMHNPs was 13.63%, therapists 12.39% and medical residents 13.85%.

While the initial project implementation was solely focused on the PMHNPs, the standard of practice used by OPSH to remind patients of their scheduled appointments remained as TeleVox, an automatic phone call service for other service providers such as therapists and medical residents. TeleVox is an automated program which calls patients on the day before their appointment and leaves a voice message about the date, and time of their appointment. Patients are not automatically signed up for SMS due to

vulnerabilities associated with smart phone devices, and security concerns such as messages that may be seen by third parties, stolen/lost devices, or limited connection ability (Ossemane, E. B., Moon, T. D., Were, M. C., & Heitman, E., 2018). SMS reminders require an active signup process, so expanding of this project's function to include all disciplines in the clinic required educating these additional clinicians on how to sign up a patient for SMS reminders. The began the focus for round 2 of this project.

Unfortunately, as with the first project run, the data collection period was affected; this time due to a delayed start date and the onset of the COVD19 pandemic. The circumstances affected the project by shortening the data collection window and then creating data outliers during the transition stage from inpatient visits to video visits, in accordance to the stay-at-home orders put in place here in the state of California.

Evolution

The goal of this second round iteration of the project was to expand the success of the first to the all providers in the clinic and to reduce the no-show rates for the OPSH clinic. The mental health patient population has difficulties with patient compliance with appointment attendance, which leads to improper assessment and a deterioration of essential foundational care (Youssef, A. (2014). The population serviced by the other disciplines at OPSH, the therapists and medical residents, are diverse demographically and culturally distinct, although most to all these patients have access to a smart phone. Fortunately OPSH continues to utilize the EHR known as EPIC, which is essential to the continuation of this project as it has built-in automated SMS reminder settings, which are verbally elected by the patient to be utilized and easily activated. When the patient consents to SMS reminders, the patient receives a SMS reminder the day before their

appointment, which identifies the receiver by name and reminds them of their

appointment day, time, and place. Additionally, the patient is given the choice to confirm

or cancel, which if there is a cancellation allows dynamic changes in the days schedule or

room for unplanned emergent situations.

The second round of the project trained staff how to offer patients the choice to

change their appointment reminders from TeleVox to SMS. This was achieved through

two ten-minute in-service sessions which were performed at monthly staff meetings when

attendance was high for PHMNPs, PMHNP students, administrative staff, therapists, and

medical residents. SMS in-services consisted of two major components; a visual guide

with step-by-step instructions on how to perform SMS signups once verbal consent was

given, and laminated popup desk reminders for visual cues for providers to remember to

ask their patients about SMS signup. In regards to the implementation cost of this

project, it was incredibly low, EPIC EHR already had SMS services built in, and paper

materials for visual guides and pop up reminders inexpensive, and can be utilized or

reproduced for a third round of this project or its expansion to other sites.

Process Description

Round two of this project continued to be conducted solely at OPSH and utilize

the IOWA model as a guide to its formulation and continuation. OPSH is a publicly

funded and UCSD operated clinic in the downtown San Diego area, the data evaluation

period lasted for 2 months, February 2020 to April 2020, with baseline data collected in

January 2020. Data collection was monthly from February 2020 to April 2020, which

examined the no-show rates based on provider discipline; PHMNPs, therapists and

medical residents. Informally surveys conducted with all participating staff to assess

compliance with offering SMS to patients and any barriers that arose. During this project, data was retrieved via built in report generators from the EHR software which did not attach any patient identifiers or personal information and were limited to percentage values based on attendance in the date range requested.

Impact

The second round of this project, in its limited run, again showed success in reducing no-show rates amongst providers at the OPSH clinic. From January 2020 to April 2020, no-show rates for PMHNPs went from 13.67% to 7.1%, and medical residents went from 13.98% to 11.30%. However, therapists saw an increase from 12.59% to 14.44%. Those contributing factors are discussed later. Data from April 2020 onward would be potentially skewed as currently all visits have been converted to video visits only due to the COVID19 pandemic and might function as a positive outlier.

The project continues to remain economically sound as an investment, with a low cost only in paper products, pop up stands, and laminated reminder cards for all providers and staff, a value of $310, in comparison to the average no-show cost $200. With a minimum of ten less no-shows, the project creates a return on investment of 545%. Important to note, printed materials and education can be reused and reproduced to expand this project to other sites at even lower cost.

Moving forward

This second round of the project completed its initial purpose; to educate the entire multidisciplinary staff OPSH clinic to sign-up patients for SMS reminders, and to reduce the no-show rates amongst all providers. The project's real value is its impact on

the clinic with a decrease in lost revenue, increase in provider productivity, and most importantly an increased patient face-to-face time for proper and thorough assessments and possibly increased patient satisfaction.

Contributing factors that may have affected the results can be attributed initially due to the flu season effect on attendance, which was later compounded by the rapidly increasing effects on society of the COVID19 pandemic and its subsequent stay-at-home orders here in the state of California. Both the flu season and COVID19 had its effect on providers as well, adding another element to the data, that can be illustrated in the jump in therapy no-show rates, when the number of available therapist dropped in February due to illness. As video visits became the standard mid to late march, providers where less focused on asking patients about SMS reminders and more focused on performing the video visit efficiently since they not conducted video visits before, and required education on how to do so.

One of the project's first possible improvements was including all multidisciplinary providers on the project, which successfully evolved into this round's main focus. Moving forward, a continuation of this project would include a reeducation about the importance of SMS reminders even during the use of video visits as society adjusts to social distancing during the pandemic. The project will hopefully be continued by oncoming PHMNP students who are part of the OPSH rotation, incorporating improvements mentioned and proposing, through their multi-site rotations, that this project be implemented at other UCSD clinical sites.

In conclusion, in a technology adept society with a high daily smart phone use rate, this project is a valuable part in addressing no-show rates amongst today's patients.

SMS reminders offer a more convenient and alternative method to patient's appointment reminders over automated voice calls. SMS reminders not only benefit the patient outcome, they can also benefit the clinics, in recovery of revenue and increased provider productivity with more patients attending their scheduled appointments. In the mental health field, attendance to appointments for patient provider interaction and assessment is crucial to the success of the patient and their treatment plan. Something as easy an SMS reminder with a low cost, can have a significant impact.

References

1. Andel, E., Been, S. K., Rokx, C., & van der Ende, M. E. (2016). Risk factors in an

HIV-infected population for refraining from specialist care. *AIDS Care*, *28*(10),

1255–1260. https://doi-

org.sandiego.idm.oclc.org/10.1080/09540121.2016.1168914

2. Asgary, R., Sckell, B., Alcabes, A., Naderi, R., Adongo, P., & Ogedegbe, G. (2015).

Perceptions, Attitudes, and Experience Regarding mHealth Among Homeless

Persons in New York City Shelters. *Journal of Health Communication*, *20*(12),

1473–1480. https://doi-

org.sandiego.idm.oclc.org/10.1080/10810730.2015.1033117

3. Boksmati, N., Butler-Henderson, K., Anderson, K., & Sahama, T. (2016). The

Effectiveness of SMS Reminders on Appointment Attendance: a Meta-Analysis.

Journal of Medical Systems, *40*(4), 1–10. https://doi-

org.sandiego.idm.oclc.org/10.1007/s10916-016-0452-2

4. Brown, W., Giguere, R., Sheinfil, A., Ibitoye, M., Balan, I., Ho, T., Benjamin, Q.,

Javier, R., Alex, C., Ross, D., Brown, W., 3rd. (2018). Challenges and solutions

implementing an SMS text message-based survey CASI and adherence reminders

in an international biomedical HIV PrEP study (MTN 017). *Journal of

Biomedical Informatics*, *80*, 78–86. https://doi-

org.sandiego.idm.oclc.org/10.1016/j.jbi.2018.02.018

5. Car, J., Ng, C., Atun, R., & Card, A. (2008). SMS text message healthcare appointment

reminders in England. *Journal of Ambulatory Care Management*, *31*(3), 216–219.

https://sandiego.idm.oclc.org/login?url=http://search.ebscohost.com/login.aspx?di

rect=true&db=rzh&AN=105666868&site=ehost-live

6. Car, J., Gurol-Urganci I, de Jongh, T., Vodopivec-Jamsek, V., & Atun, R. (2013).

Mobile phone messaging reminders for attendance at healthcare appointments.

Cochrane Database of Systematic Reviews, (12), N.PAG.

https://sandiego.idm.oclc.org/login?url=http://search.ebscohost.com/login.aspx?di

rect=true&db=rzh&AN=108151807&site=ehost-live

7. DeFife, J.A., Conklin, C.Z., Smith, J.M., & Poole, J. (2010). Psychotherapy

appointment no-shows: rates and reasons. *Psychotherapy*, *47*(3), 413–417.

https://doi-org.sandiego.idm.oclc.org/10.1037/a0021168

8. Filippidou, M., Lingwood S., & Mirza. I. (2014). Reducing non-attendance rates in a

community mental health team. *BMJ Open Quality*, 3(1) https://doi-

org.sandiego.idm.oclc.org/10.1136/bmjquality.u202228.w1114

9. Junod Perron, N., Dao, M. D., Righini, N. C., Humair, J. P., Broers, B., Narring, F.,

Haller, D. M., & Gaspoz, J. M. (2013). Text-messaging versus telephone

reminders to reduce missed appointments in an academic primary care clinic: a

randomized controlled trial. *BMC health services research*, *13*, 125.

https://doi.org/10.1186/1472-6963-13-125

10. Klasnja, P., Pratt, W., Klasnja, P., & Pratt, W. (2012). Healthcare in the pocket:

mapping the space of mobile-phone health interventions. *Journal of Biomedical

Informatics*, *45*(1), 184–198. https://doi-

org.sandiego.idm.oclc.org/10.1016/j.jbi.2011.08.017

11. Moczygemba, L. R., Cox, L. S., Marks, S. A., Robinson, M. A., Goode, J. R., & Jafari, N. (2017). Homeless patients' perceptions about using cell phones to manage medications and attend appointments. *International Journal of Pharmacy Practice*, *25*(3), 220–230. https://doi-org.sandiego.idm.oclc.org/10.1111/ijpp.12321

12. Narring, F., Perron, N. J., Dao, M. D., Righini, N. C., Humair, J.-P., Broers, B., … Haller, D. M. (2013). Text-messaging to reduce missed appointment in a youth clinic: a randomised controlled trial. *Journal of Epidemiology & Community Health*, *67*(10), 888–891. https://doi-org.sandiego.idm.oclc.org/10.1136/jech-2013-202510

13. Ossemane, E. B., Moon, T. D., Were, M. C., & Heitman, E. (2018). Ethical issues in the use of SMS messaging in HIV care and treatment in low- and middle-income countries: case examples from Mozambique. *Journal of the American Medical Informatics Association*, *25*(4), 423–427. https://doi-org.sandiego.idm.oclc.org/10.1093/jamia/ocx123

14. Perry, J.G. (2011). A preliminary investigation into the effect of the use of the short message service (SMS) on patient attendance at an NHS Dental Access Centre in Scotland. *Primary Dental Care: Journal of the Faculty of General Dental Practitioners*, *18*(4), 145–149. https://sandiego.idm.oclc.org/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=rzh&AN=108196205&site=ehost-live

15. Ronen, K., Unger, J. A., Drake, A. L., Perrier, T., Akinyi, P., Osborn, L., Matemo, Daniel; O'Malley, Gabrielle; Kinuthia, John;John-Stewart, G. (2018). SMS

messaging to improve ART adherence: perspectives of pregnant HIV-infected women in Kenya on HIV-related message content. *AIDS Care*, *30*(4), 500–505. https://doi-org.sandiego.idm.oclc.org/10.1080/09540121.2017.1417971

16. Thomas, I. F., Lawani, A. O., & James, B. O. (2017). Effect of short message service reminders on clinic attendance among outpatients with psychosis at a psychiatric hospital in Nigeria. *Psychiatric Services*, *68*(1), 75–80. https://doi-org.sandiego.idm.oclc.org/10.1176/appi.ps.201500514 15

17. Youssef, A. (2014). Use of short message service reminders to improve attendance at an internal medicine outpatient clinic in Saudi Arabia: a randomized controlled trial. *Eastern Mediterranean Health Journal*, *20*(5), 317–323. https://sandiego.idm.oclc.org/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=rzh&AN=103959487&site=ehost-live

Concluding Essay:

Reflections on Growth in Advanced Practice Nursing Role

From year one to the final moment, it truly has been an incredible journey. Went from starting as a family nurse practitioner to switching to psychiatric mental health nurse practitioner less than a year in. It was the undiscovered frontier of mental health that lured me in. Of course, once I made the switch, I initially panicked as all the previous years of nursing experience did not mean much once I sat down in my first rotation across from a patient! It was that moment that motivated me to be the biggest sponge I could be at my clinical rotations, and to really make conscious connections between my classes and my clinicals. I knew I had to build up a toolbox and I had to do it quick, but for me, nothing solidifies in my mind until I use it, so taking the lessons I learned and seeing them in clinical practice really began building a solid foundation, and my worries lessened for a time. Of course, we all have new and more things to worry about, but I know how to reframe those uncomfortable and unknown experiences and lessons and thus tools as time progressed. Now I find myself, not ready per se nor a complete package of a provider, but more so I know the importance of and continue to seek evidence-based knowledge to better my patient care and increase confidence in myself to be safe, and thorough. It has been an excellent challenging three years, for which I am eternally grateful for all of those who held shape me along the way.

Appendix A

IRB Approval

	Date: 4-16-2020

IRB #: IRB-2020-35
Title: Using Short Message Services (SMS) to Reduce No-Show Rates: An EBP Project
Creation Date: 10-3-2019
End Date:
Status: Approved
Principal Investigator: Matthew Rocklage
Review Board: USD IRB
Sponsor:

Study History

				Decision	No Human Subjects Research
Submission Type	Initial	**Review Type**	Exempt		

Key Study Contacts

				Contact	
Member	Matthew Rocklage	**Role**	Principal Investigator	mrocklage@sandiego.edu	
Member	Michael Terry	**Role**	Primary Contact	**Contact**	mjterry@SanDiego.edu

UNIVERSITY OF CALIFORNIA, SAN DIEGO
HUMAN RESEARCH PROTECTIONS PROGRAM

Date: December 8, 2019

To: Dr. Matthew Rocklage

Re: Project #191869QI
Using Short Message Services (SMS) to Reduce No-Show Rates

Dear Dr. Rocklage:

Your project has been reviewed by the Director of the UCSD HRPP, IRB Chair, or IRB Chair's designee and is certified as not qualifying as human subjects research according to the Code of Federal Regulations, Title 45, part 46 and UCSD Standard Operating Policies and Procedures; and therefore, does not require IRB review.

In order for a project to be considered human subjects research, both of the following must be true:

1. The activity is a systematic investigation, including research development, testing and evaluation. A systematic investigation is an activity that attempts to answer a research question or questions that is methodology driven in that it collects data or information in an organized and consistent way, and the data or information is analyzed in some way, be it quantitative or qualitative data and conclusion or conclusions are drawn from the results.
2. The activity is designed to develop or contribute to generalizable knowledge. Generalizable knowledge is defined as an activity that is designed (with intent) to collect information about some individuals to draw general conclusions about other individuals that are predictive of future events and that can be widely applied as expressed in theories, principles, and statements and that enhance scientific or academic understanding.

In order for a project to involve human participants, the following must be true:

1. The investigator will obtain data about living individuals through intervention or interaction with the individual *or* the information is individually identifiable.

Though certified as not human subjects research, the investigator should ensure that the activities associated with the project are conducted in compliance with applicable UCSD and Rady Children's Hospital – San Diego policies and ethical standards as well as local, state, and federal regulations.

Appendix B

Letter of Support from Clinical Site

UCSD Outpatient Psychiatric Services - Hillcrest
140 Arbor Drive
San Diego, CA 92103

To: Institutional Review Board, University of San Diego

From: Alexandra Sietsma, APRN, PMHNP

Re: Use of Clinical Data

During Fall semester of 2019 and Spring semester of 2020, Mr. Matthew Rocklage did a clinical residency at the UCSD OPSH Clinic as a part of his coursework for the Doctor of Nursing Practice (DNP) Program at the University of San Diego. Mr. Rocklage is now requesting the use of data from this clinical residency for an evidence-based class project.

UCSD Human Research Protections Program (HRPP) has certified this project as a EBP/QA/or QI project and has determined it as not research based. This data does not include PHI or institutional identifiers. I am supportive of Mr. Rocklage using this collected data under the above certification for his class project.

If you have any questions, please do no hesitate to contact me at 619-543-6355 or asietsma@ucsd.edu

Sincerely,

Alexandra Sietsma, APRN, PMHNP-BC
Director, Nurse Practitioner Clinical Training Program
Department of Psychiatry
University of California, San Diego

Appendix C

Poster Abstract with Letter of Acceptance to Conference

Abstract

INFORMATION AND TECHNOLOGY

Using Short Message Services (SMS) to Reduce No-Show Rates: An EBP Project

Matthew Rocklage, BSN, RN

DNP/PMHNP Student

University of San Diego

San Diego, CA

Background: No-shows (NS) are correlated with reduced treatment efficacy, increased financial burden on medical institutions, and early treatment termination for therapy. NS occur for a variety of reasons and appointment compliance within outpatient mental health clinics has a wide variance with clinics reporting no-shows ranging from 15% to 50%. This section of the project is a continuation started by an earlier USD DNP student Fernando Serrano, in which the projects aims will now expand past just nurse practitioners to include marriage family therapist (MFT), psychologist and medical residents, and address the NS rates clinic wide.

At the project clinic, a year after the initial project was implemented the year to date no-show rates for the entire clinic is 11.40%, for Residents it is 12.58%, for Nurse Practitioners (NP) it is 5.71%, and for MFT's and Psychologist it is 12.82%.

Purpose of the Project: Providers and staff will offer patients the ability to sign up for Short Message Services (SMS) appointment reminders. Patients who agree to SMS will receive text messages to their phone with an appointment reminder on the day prior. The goal is to increase SMS use with patients and reduce MA's by 20% clinic wide and within each group of NP's, therapist, and residents.

Framework/EBP Model: The IOWA model was used for this project.

Evidence-Based Intervention: With continual reduced cost and substantial increase in mobile phone technology usage by the general population, SMS has become a new mainstay for direct communication. SMS appointment reminders have been successfully implemented in mental health, radiology, physical therapy, and dentistry with each setting experiencing a significant decrease in no-show rates.

Implementation: After clinic IRB approval, SMS teaching material, printouts and reminder notes for providers were prepared. Qualitative statements from the three

disciplines about attitude and barriers regarding SMS were collected before, during and after the project's implementation. Pre-data collection includes surveying MA's rates and SMS sign up among all clinic patients for the previous 8 weeks.

15-30-minute teaching sessions will take place with psychiatric mental health nurse practitioners (PMHNP), PMHNP students, MFT's, psychologist, residents, and administration staff. SMS "How to" flyers were posted in provider communal areas and in each provider room to instruct and remind providers and staff to offer SMS reminders to patients. Data were collected weekly for 8 weeks examining SMS sign up rates, MAs and provider/staff SMS compliance with offering SMS to patients. Data were continually collected on secured hard drives on excel spreadsheets. Case identifiers were limited to alpha numeric codes with no personal information attached.

Evaluation Results: We expect at least 50% of the providers/students/staff will report they are offering SMS to patients at the end of the first 4 week and at least 75% by the end of 8 weeks. We predict at least 70% SMS sign up with patients and a reduce in no-show rates by 20% upon project completion.

Implications for Clinical Practice: We anticipate all providers and staff at the clinic will offer SMS sign up as a part of standard policy and procedure. As SMS sign ups grows, NS will decrease. With a further decreased in clinic wide no-show rates, this program could possible be rolled out to other UCSD clinic sites.

Conclusions: Using SMS appointment reminders supplies an additional deterrent for no-shows to scheduled appointments. The brevity, efficiency and cost-effectiveness of SMS allows patients to quickly be reminded of upcoming appointments with the choice to confirm or reschedule as needed. SMS helps increase appointment attendance while reducing provider nonproductive hours from no-shows.

Acceptance Letter

We are pleased that you will be presenting a poster at the 2020 Western Institute of Nursing (WIN) conference, which will be held at the Downtown Hilton in Portland, Oregon from April 15-18. Your poster has been scheduled in Poster Session 2 on Friday, April 17, from 8 AM to 12 PM. Posters boards are 4' x 8'.

At 8 AM on April 17, please hang your poster on the poster board labeled with the poster number you will be assigned in the conference program. Please remove your poster at 12 PM. We ask presenters in Poster Session 2 to stand by their posters from 10:20 to 11:20 AM.

All presenters much register for the conference, and registration is available here. Register early to receive the best rates.

The full conference program and poster sessions are posted on the WIN website here. Information about reserving a room at the Downtown Hilton is available here.
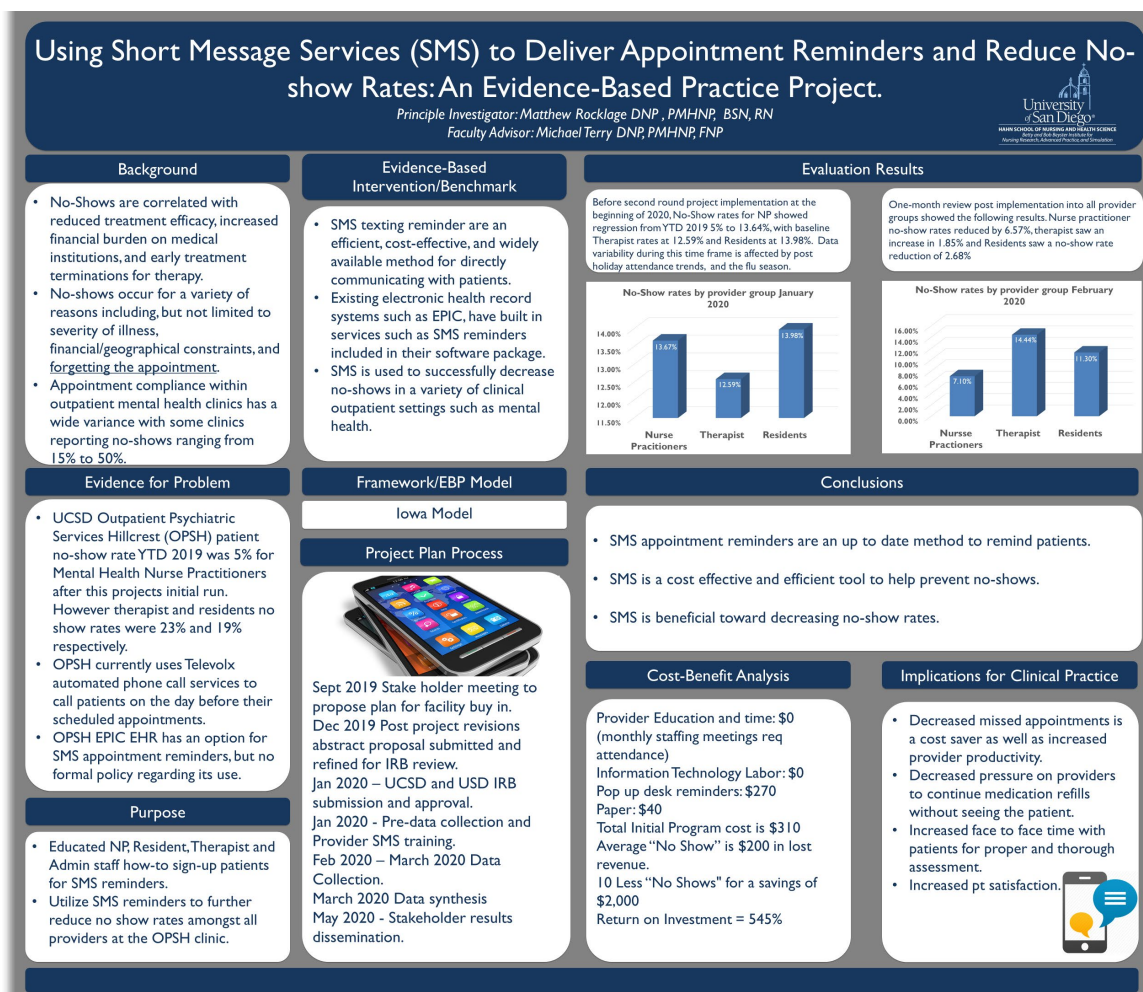
We look forward to seeing you in April. Please let us know if you have questions.

Thank you,

Bo Perry
Executive Director
Western Institute of Nursing
Mail Code: SN-4S
3455 SW Veterans Hospital Road
Portland, OR 97239
www.winursing.org

Appendix D

Poster Presentation

Using Short Message Services (SMS) to Deliver Appointment Reminders and Reduce No-show Rates: An Evidence-Based Practice Project.

Principle Investigator: Matthew Rocklage DNP , PMHNP, BSN, RN
Faculty Advisor: Michael Terry DNP, PMHNP, FNP

University of San Diego®
HAHN SCHOOL OF NURSING AND HEALTH SCIENCE
Betty and Bob Beyster Institute for Nursing Research, Advanced Practice, and Simulation

Background

- No-Shows are correlated with reduced treatment efficacy, increased financial burden on medical institutions, and early treatment terminations for therapy.
- No-shows occur for a variety of reasons including, but not limited to severity of illness, financial/geographical constraints, and forgetting the appointment.
- Appointment compliance within outpatient mental health clinics has a wide variance with some clinics reporting no-shows ranging from 15% to 50%.

Evidence-Based Intervention/Benchmark

- SMS texting reminder are an efficient, cost-effective, and widely available method for directly communicating with patients.
- Existing electronic health record systems such as EPIC, have built in services such as SMS reminders included in their software package.
- SMS is used to successfully decrease no-shows in a variety of clinical outpatient settings such as mental health.

Evaluation Results

Before second round project implementation at the beginning of 2020, No-Show rates for NP showed regression from YTD 2019 5% to 13.64%, with baseline Therapist rates at 12.59% and Residents at 13.98%. Data variability during this time frame is affected by post holiday attendance trends, and the flu season.

One-month review post implementation into all provider groups showed the following results. Nurse practitioner no-show rates reduced by 6.57%, therapist saw an increase in 1.85% and Residents saw a no-show rate reduction of 2.68%

No-Show rates by provider group January 2020

	Nurse Practitioners	Therapist	Residents
	13.67%	12.59%	13.98%

No-Show rates by provider group February 2020

	Nursse Practitioners	Therapist	Residents
	7.10%	14.44%	11.30%

Evidence for Problem

- UCSD Outpatient Psychiatric Services Hillcrest (OPSH) patient no-show rate YTD 2019 was 5% for Mental Health Nurse Practitioners after this projects initial run. However therapist and residents no show rates were 23% and 19% respectively.
- OPSH currently uses Televolx automated phone call services to call patients on the day before their scheduled appointments.
- OPSH EPIC EHR has an option for SMS appointment reminders, but no formal policy regarding its use.

Framework/EBP Model

Iowa Model

Project Plan Process

Sept 2019 Stake holder meeting to propose plan for facility buy in.
Dec 2019 Post project revisions abstract proposal submitted and refined for IRB review.
Jan 2020 – UCSD and USD IRB submission and approval.
Jan 2020 - Pre-data collection and Provider SMS training.
Feb 2020 – March 2020 Data Collection.
March 2020 Data synthesis
May 2020 - Stakeholder results dissemination.

Conclusions

- SMS appointment reminders are an up to date method to remind patients.
- SMS is a cost effective and efficient tool to help prevent no-shows.
- SMS is beneficial toward decreasing no-show rates.

Cost-Benefit Analysis

Provider Education and time: $0 (monthly staffing meetings req attendance)
Information Technology Labor: $0
Pop up desk reminders: $270
Paper: $40
Total Initial Program cost is $310
Average "No Show" is $200 in lost revenue.
10 Less "No Shows" for a savings of $2,000
Return on Investment = 545%

Implications for Clinical Practice

- Decreased missed appointments is a cost saver as well as increased provider productivity.
- Decreased pressure on providers to continue medication refills without seeing the patient.
- Increased face to face time with patients for proper and thorough assessment.
- Increased pt satisfaction.

Purpose

- Educated NP, Resident, Therapist and Admin staff how-to sign-up patients for SMS reminders.
- Utilize SMS reminders to further reduce no show rates amongst all providers at the OPSH clinic.

Appendix E

PowerPoint Stakeholder Presentation

LESS MONEY: When an appointment is missed, OPS does not get paid. Our least expensive service is $125 out of pocket and an initial intake can mean up to $400 is lost.

STOPPED TREATMENT: Patients that need to be seen before they can have refills of controlled substances may run out of medications while they wait for rescheduled appointments (DeFife, Conklin, Smith, & Poole, 2010).

THE PROBLEM STILL PERSIST....

HOW DO WE CURRENTLY REMIND PEOPLE ABOUT THEIR APPOINTMENTS?

First, we schedule an appointment with them and hand an appointment reminder card.

Or they call us to schedule an appointment.

On they day before their appointment, TeleVox calls patients up to remind them they have an appointment the next day.

APPOINTMENT
~ Reminder ~

FOR: _____

DATE: _____

☐ Mon ☐ Tue ☐ Wed ☐ Thu ☐ Fri ☐ Sat ☐ Sun

TIME: _____ a.m. p.m.

THIS METHOD IS NOT UP TO DATE WITH TODAYS TECHNOLOGY PREFERENCES.

No shows occur for a variety of reasons including, but not limited to severity of illness, financial/geographic constraints, but forgetting the appointment is the most common reason(Filippidou, Lingwood, & Mirza,2014).

Patients often report they don't check voicemail immediately on the same day or answer phone numbers not listed under contacts. (Lockhart, Gillespie, & Grant, 2017).

UTILIZING EXISTING PREFERRED METHODS OF COMMUNICATION: TEXTING

Texting is the most used app on smartphones, 97% of Americans using it at least once a day.

Text messages have a 98% open rate, while email has only a 20% open rate

On average, Americans exchange twice as many texts as they do calls (Klasnja & Pratt, 2012).

USING WHAT IS ALREADY THERE: EHR SMS

The EPIC charting system has SMS services built in.

Patients need to give permission to receive text appointment reminders

Patients can cancel or confirm via text as well.

INSTRUCTIONS FOR STAFF

Updated visual instruction guide for version 2 roll out

HOW TO SETUP SMS REMINDERS IN EPIC

Follow these steps to ENABLE text message appointment reminders for your patients.

Step 1. Locate the Demographics Button in EPIC, it is either on your left side bar or under the "more" button on the bottom left.

Step 2. Click on the Addition Information Tab.

Step 3. Click on "Go to Communication Preferences."

Step 4. Scroll Down to the VERY BOTTOM and click the slide bar so that it is enabled.

From Disabled / To ENABLED

Send Text Messages?

Step 5. Once completed you should see Green Text Message Boxes in the appointments section.

Extra: Please ask patient if they want to sign up for mychart. If so, please give them the my chart card and have them follow up with Administration at the front desk before leaving.

THANK YOU!!!!

INSTRUCTIONS FOR STAFF

Desk reminders for all staff

SIGN UP YOUR PATIENTS FOR TEXT MESSAGE APPOINTMENT REMINDERS!!!

#EPIC

MONTHLY UPDATE

Did you ask your patients if they wanted SMS?

Were you able to sign them up via EPIC ?

Did your patient receive the text reminder?

NP rates 7.1%
(down from 13.67%)

Therapist 14.44%
(up from 12.59%)

Residents 11.3%
(down from 13.98%)
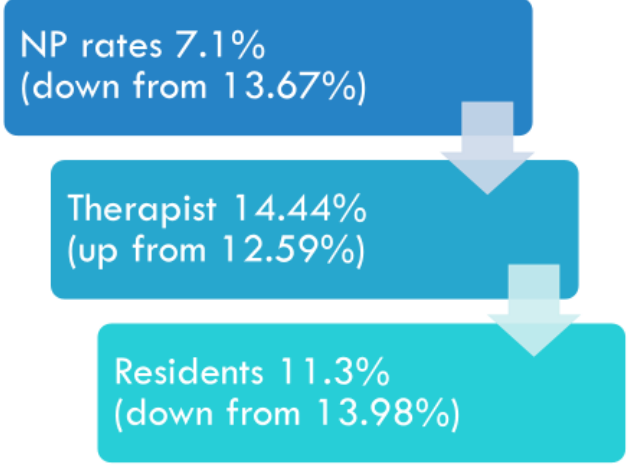
ROUND 2 OF
PROJECT
IMPLEMENTATION
RESULTS (1 MO)

PROJECT
PROJECTIONS:
WHAT IS
EXPECTED?

Considerations:

As the additional included staff (admin, therapist and residents) continue to participate in the project, there will be a continued reduction in no show rates for the clinic.

With the stay at home orders in place, and follow ups necessary for the prescription of refills, reminding patients to attend their video visits has become more important than ever.

The COVID19 Pandemic might act as an outlier, increasing virtual attendance and reducing no show rates out of necessity for all outpatient psychiatry patients.

MOVING FORWARD: WHAT IS NEXT?

Continue Project Implementation

A reduction in no show rates through this project is a low cost to increasing revenue and better patient outcomes.

Consider third iteration of this project, for continued support and maintenance at UCSD OPSH.

Using existing materials provided by this project, implement SMS reminders use and education into all UCSD clinic sites.

REFERENCES

Appendix F

AACN DNP Essentials/NONPF Competencies/ USD DNP Program Outcomes Exemplars

AACN DNP Essentials & NONPF Competencies	USD DNP Program Objectives	Exemplars Provide bulleted exemplars that demonstrates achievement of each objective
DNP Essential I: Scientific Underpinnings for Practice **NONPF: Scientific Foundation Competencies** *The scientific foundation of nursing practice has expanded and includes a focus on both the natural and social sciences including human biology, genomics, science of therapeutics, psychosocial sciences, as well as the science of complex organizational structures. In addition, philosophical, ethical, and historical issues inherent in the development of science create a context for the application of the natural and social sciences.*	**2.** Synthesize nursing and other scientific and ethical theories and concepts to create a foundation for advanced nursing practice.	**Fall 2017** • Pathophysiology peer review article on disease process and present evidence found on ground rounds **(APNC 520, Dr. Maxwell)** • Analyzed the application of various translational science methodological approaches in advancing evidence based practice. **(DNPC 611, Dr. Burkard)** **Spring 2018** • Reviewed pharmacologic treatments of diseases with considerations to special populations **(APNC 523, Dr. Hoyt)** • Analyzed approaches to the development, monitoring, and modification of the therapeutic

		regimen based on an evaluation of individual patient characteristics and responses to treatment. **(APNC 523, Dr. Hoyt)** **Summer 2018** • Reflection Narrative by using scientific foundation of mindfulness in medicine and advance nursing practice **(DNPC 610, Dr. Asaro)** **Spring 2019** • Utilize scientific evidence as a basis for designing practice changes and outcomes. **(DNPC 686, Dr. Thomason)** • Collaborate and design DNP project continuation from previous implementation. **(DNPC 630, Dr. Terry)** **Fall 2019** • Understand the components of supportive psychotherapy and its use in mental health. **(DNPC 653, Dr. Terry)** **Spring 2020** • Demonstrate knowledge of systems theories and major approaches to group and family psychotherapy. **(NPTC 657, Dr. Terry)**

| DNP Essential II: Organizational & System Leadership for Quality Improvement & Systems Thinking

NONPF: Leadership Competencies/Health Delivery System Competencies

Advanced nursing practice includes an organizational and systems leadership component that emphasizes practice, ongoing improvement of health outcomes, and ensuring patient safety. Nurses should be prepared with sophisticated expertise in assessing organizations, identifying system's issues, and facilitating organization- wide changes in practice delivery. This also requires political skills, systems thinking, and the business and financial acumen needed for the analysis of practice quality and costs. | **5.** Design, implement, and evaluate ethical health care delivery systems and information systems that meet societal needs and ensure accountability for quality outcomes. | **Fall 2017**
• Critically analyzed and applied appropriate statistical procedures for various translational / evidence based science designs (**DNPC 611, Dr. Burkard**)
• Used epidemiologic models to explore factors contributing to a selected health problems encountered in advanced nursing practice within population groups. (**DNPC 625, Dr. Barger**).
Spring 2018
• Examined the furnishing of drugs and/or devices pursuant to the California BRN practice requirements, standardized procedures, and in conformance with applicable laws, codes, and/or regulations. (**APNC 523, Dr. Hoyt**)
• Demonstrated knowledge of California Pharmacy Board rules and regulations, California Health & Safety Codes, and the Federal Register. (**APNC 523, Dr. Hoyt**)
• Analyzed and applied strategic management principles in a case |

		study presentation **(DNPC 626, Dr. James)** • Conducted needs assessment of target population and designed quality improvement project based on measures and evaluation of care outcome **(DNPC 626, Dr. James)** • Developed a multi-axial psychiatric diagnoses based on data collected in the interview and from collateral sources of information, and document evaluation results appropriate to the clinical setting at UCSD. **(NPTC 627, Dr. Terry)** **Summer 2018** • Explore the scientific foundations and practice of mindfulness for the enhancement of one's own reflective practice. **(DNPC 610, Dr. Asaro)** • Analyzed the relationships between philosophical stance, practice perspectives, and inquiry/research methodologies. **(DNPC 610, Dr. Asaro)** **Spring 2019**

		• Synthesized and evaluated evidence and developed proposal for DNP Scholarly Project. **(DNPC 686, Dr. Thomason)** **Fall 2019** • Successfully initiation of DNP project SMS Reminders to reduce no-show rates at clinical site. **(DNP 630, Dr. Terry)**

DNP Essential III: Clinical Scholarship & Analytical Methods for Evidence-Based Practice **NONPF: Quality Competencies/Practice Inquiry Competencies** *Scholarship and research are the hallmarks of doctoral education. Although basic research is viewed as the first and most essential form of scholarly activity, an enlarged perspective of scholarship has emerged through alternative paradigms that involve*	**4.** Incorporate research into practice through critical appraisal of existing evidence, evaluating practice outcomes, and developing evidence-based practice guidelines.	**Fall 2017** • Evaluated data management techniques to monitor and evaluate evidence-based interventions, at clinical setting. **(DNPC 625, Dr. Barger)** • CITI program training completion on biomedical research, conflict of interest, and social behavioral conduct in research **(DNPC 625, Dr. Barger)** **Spring 2018** • Synthesized and disseminated evidence-based research in Complementary and Alternative Medicine Modalities

more than discovery of new knowledge. These paradigms recognize: (1) the scholarship of discovery and integration "reflects the investigative and synthesizing traditions of academic life"; (2) scholars give meaning to isolated facts and make connections across disciplines through the scholarship of integration; and (3) the scholar applies knowledge to solve a problem via the scholarship of application that involves the translation of research into practice and dissemination and integration of new knowledge.		Presentation: Cranberry **(APNC 523, Dr. Hoyt)** **Fall 2018** - Developed evidence-based manuscript to prepare for submission "G6PD" **(DNPC 622, Dr. Nolen)** - Identified key contributions to the comprehensive biopsychosocial understanding of normal and abnormal human behaviors. **(NPTC 627, Dr. Terry)** - Demonstrate knowledge of basic neuroscience, including brain structure and function, damage effects, and the related psychopathologies. **(NPTC 627, Dr. Terry)** **Spring 2019** - Maintained clinical standards by attending the San Diego critical care conference for psychiatry UCSD. **(NPTC 651, Dr. Terry)** **Fall 2019** - Conduct psychotherapy sessions in selected clinical settings, incorporating appropriate verbal and non-verbal approaches. **(NPTC 653, Dr. Terry)**

		• Demonstrate beginning competence with adults and older adults in supportive, cognitive-behavioral, interpersonal, and psychodynamic therapies. **(NPTC 653, Dr. Terry)** **Spring 2020** • Intervene to address problems based on a critical understanding and synthesis of multiple practice theories and evidence-based guidelines. **(NPTC 657, Dr. Terry)**
DNP Essential IV: Information Systems/Technology & Patient Care Technology for Improvement & Transformation of Health Care **NONPF: Technology & Information Literacy Competencies** *DNP graduates are distinguished by their abilities to use information systems/technology to support and improve patient care and health care systems, and provide leadership within health care systems and/or academic*	**7.** Incorporate ethical, regulatory, and legal guidelines in the delivery of health care and the selection, use, and evaluation of information systems and patient care technology.	**Fall 2017** • Obtained Biomedical Research Human Certification-Basic/Refresher Course through CITI **(DNPC 625, Dr. Barger)** **Spring 2018** • Examined and explored improvements toward incorporating HIPPA guidelines into electronic healthcare record interfaces **(APNC 521, Dr Hoyt.)** • Analyzed the health care environment of UCSD OPSH clinic, prepared a strategic plan appropriate for the environment, and developed implementation steps for the

settings. Knowledge and skills related to information systems/technology and patient care technology prepare the DNP graduates apply new knowledge, manage individual and aggregate level		accomplishment of the strategic plan. **(DNPC 625, Dr. James)** • Used advanced communication skills and processes to lead quality improvement and patient safety initiatives at UCSD clinical site. **(DNPC 625, Dr. James)** **Summer 2018** • Apply principle of health care finance, needs assessment, strategic planning models, and SWOT analysis in order to develop a health care product proposal regarding EHR on a video platform **(DNPC 653, Dr. Gonzales)** **Fall 2018** • Gained exposure to multiple EMRs in clinical site EPIC and Cerner, with a focus on patient center technology **(NPTC 627, Dr. Terry)** • Explore current therapies and investigational interventions including pharmacogenetics for complex disease states in the acutely or chronically ill individual utilizing evidence-

		based practice models. **(DNPC 622, Dr. Nolan)**
		Spring 2019
		• Researched and became proficient in EPIC canto and Telesor telehealth technology the software used for the telehealth DNP EBP project **(DNPC 686, Dr. Thomason)**
		• Applied principles of program planning to the design of an evidence-based practice project SMS reminders to reduce no-show rates. **(DNPC 686, Dr. Thomason)**
		Spring 2019
		• Structured monthly meetings to educate UCSD staff on utilizing existing technology in the HER for project implementation. **(DNPC 630, Dr. Terry)**

information, and assess the efficacy of patient care technology appropriate to a specialized area of practice along with the design, selection, and use of information systems/technology to evaluate		

programs of care, outcomes of care, and care systems. Information systems/technology provide a mechanism to apply budget and productivity tools, practice information systems and decision supports, and web- based learning or intervention tools to support and improve patient care.		
DNP Essential V: Health Care Policy for Advocacy in Health Care **NONPF: Policy Competencies** *Health care policy, whether created though governmental actions, institutional decision-making, or organizational standards, creates a framework that can facilitate or impede the delivery of health care services or the ability of the provider to engage in practice to address health care needs. Engagement in the process of policy development is central to creating a health care system that meets the needs of its constituents. Political activism and a commitment to policy*	**3.** Demonstrate leadership in collaborative efforts to develop and implement policies to improve health care delivery and outcomes at all levels of professional practice (institutional, local, state, regional, national, and/or international).	**Spring 2018** • Proposed licensing restrictions removal for nurse practitioners to local congress representative (**DNPC 648**, **Dr. Burkard**) • Examined the impact of legal and regulatory issues on health care delivery and advanced nursing practice roles. (**DNPC 648**, **Dr. Burkard**) • Conducted a policy analysis of HR4778 using a theoretical framework. (**DNPC 648**, **Dr. Burkard**) **Fall 2019** • Patient presented meeting criteria for active suicidal ideation with previous SA, initiated protocol for active SI, and escorted the patient to

development are central elements of DNP practice.		emergency department (**PMHCII Dr. Terry**) **Summer 2019** • Examined the furnishing of drugs and/or devices for treatment of mental health conditions pursuant to the California BRN practice requirements, standardized procedures, and in conformance with applicable laws, codes, and/or regulations. (**NPTC 624, Dr. Terry**) **Fall 2019** • Demonstrate an understanding of and practice within an ethical framework and the legal requirements for clinical practice as a psychiatric APRN. (**NPTC 653, Dr. Terry**) **Spring 2020** • Critically examine problems and trends in mental health and the APRN's role in family and group focused prevention and intervention. (**NPTC 657, Dr. Terry**).
DNP Essential VI: **Interprofessional Collaboration**	**1.** Demonstrate advanced levels of clinical practice within defined ethical, legal,	**Fall 2018** • Collaboratively with other providers at clinical site

for Improving Patient & Population Health Outcomes **NONPF: Leadership Competencies** *Today's complex, multi-tiered health care environment depends on the contributions of highly skilled and knowledgeable individuals from multiple professions. In order to accomplish the IOM mandate for safe, timely, effective, efficient, equitable, and patient-centered*	and regulatory parameters in designing, implementing, and evaluating evidenced-based, culturally competent therapeutic interventions for individuals or aggregates. **3.** Demonstrate leadership	synthesized multidisciplinary methods of behavioral change, including contributions from health psychology, behavioral medicine. **(NPTC 627, Dr. Terry)** **Spring 2019** • Formulated a plan for effective dissemination of evaluation results to appropriate stakeholders at UCSD OPSH. **(DPNC 686, Dr. Thomason).** • Presented patient cases orally in an organized, succinct, and accurate manner in morning briefings. **(NPTC 651, Dr. Terry)** • Articulate and demonstrate the collaborative role of a psychiatric APRN provider of psychotherapy with other disciplines. **(NPTC 651, Dr. Terry)** **Spring 2020** • DNP project rollout, reduction in no-show rates produced, continued expansion of the project proposed. **(DNP 630, Dr. Terry).**

		• Collaborated with therapy disciplines to integrate group and family therapy skills with other therapeutic modalities. **(NPTC 657, Dr. Terry)**

care in this environment, health care professionals must function as highly collaborative teams. DNPs have advanced preparation in the interprofessional dimension of health care that enable them to facilitate collaborative team functioning and overcome impediments to interprofessional practice. DNP graduates have preparation in methods of effective team leadership and are prepared to play a central role in establishing interprofessional teams, participating in the work of the team, and assuming leadership of the team when appropriate.	in collaborative efforts to develop and implement policies to improve health care delivery and outcomes at all levels of professional practice (institutional, local, state, regional, national, and/or international).	
DNP Essential VII: Clinical Prevention & Population Health for Improving Nation's Health	**6.** Employ a population health focus in the design, implementation, and evaluation of health care	**Fall 2017** • Analyses data and measures of disease in population **(DNPC 625, Dr. Barger)**

NONPF: Leadership Competencies *Consistent with national calls for action and with the longstanding focus on health promotion and disease prevention in nursing, the DNP graduate has a foundation in clinical prevention and population health. This foundation enables DNP graduates to analyze epidemiological, biostatistical, occupational, and environmental data in the development, implementation, and evaluation of clinical prevention and population.*	delivery systems that address primary, secondary, and tertiary levels of prevention.	• Used epidemiological model in order to explore cause and sources of disease and how to identify it in clinical practice **(DNPC 625, Dr. Barger)** **Spring 2019** • Collaborated with clinical site staff regarding DNP project needs for second implementation. **(DNP 630, Dr. Terry)** **Fall 2019** • Executive staff meeting to rollout DNP project clinic wide, evaluation of project impact on clinic no-show rates. **(DNP 630, Dr. Terry)**. **Spring 2020** • DNP project showed positive impact on reduction of no-show rates clinic wide. **(DNP 630, Dr. Terry)**
DNP Essential VIII: Advanced Nursing Practice	**1**. Demonstrate advanced levels of clinical practice within defined ethical, legal, and regulatory parameters in designing, implementing,	**Fall 2018** • Applied a biopsychosocial approach to disease prevention/ health promotion practices with psychiatric patients across the

NONPF: Independent Practice/Ethics Competencies	and evaluating evidence-based, culturally competent therapeutic interventions for individuals or aggregates.	lifespan at clinical site. **(NPTC 627, Dr. Terry)**
The increased knowledge and sophistication of health care has resulted in the growth of specialization in nursing in order to ensure competence in these highly complex areas of practice. The reality of the growth of specialization in nursing practice is that no individual can master all advanced roles and the requisite knowledge for enacting these roles. DNP programs provide preparation within distinct specialties that require expertise, advanced knowledge, and mastery in one area of nursing practice. A DNP graduate is prepared to practice in an area of specialization within the larger domain of nursing.		**Spring 2019** • Planned second round of DNP project implementation with UCSD to reduce no-show rates for additional disciplines inside the outpatient clinic to increase face time with patients for proper assessments and follow medication prescriptions. **(DNP 630, Dr. Terry)** **Summer 2019** • Analyzed approaches to the development, monitoring, and modification of the therapeutic regimen in treatment of mental health conditions based on an evaluation of the individual patient characteristics and responses to treatment. **(NPTC 624, Dr. Terry)** • Demonstrated an understanding of pharmacokinetics, pharmacodynamics, and the pathophysiologic basis of specific pharmacological interventions including Schedule II-V drugs used in

		treatment of mental health conditions. **(NPTC 624, Dr. Terry)**
		Fall 2019 • Developed comprehensive treatment plans for persons with identified disorders, including appropriate behavioral intervention/modification approaches. **(NPTC 653, Dr. Terry)** **Spring 2020** • Demonstrate advanced competence in the application psychotherapeutic approaches in adults and children with mood, anxiety and thought disorders. **(NPTC 655, Dr. Terry)** • Select and apply principles of DBT-informed and complex trauma approaches in selected conditions. **(NPTC 655, Dr. Terry)** • Exhibit proficiency with adults and older adults in supportive, cognitive-behavioral, interpersonal, psychodynamic and brief psychotherapies. **(NPTC 655, Dr. Terry)**

		- Select and apply principles of DBT-informed and complex trauma approaches in selected conditions. **(NPTC 655, Dr. Terry)** - Demonstrate knowledge of systems theories and major approaches to group and family psychotherapy. **(NPTC 657, Dr. Terry)** - Intervene to address problems based on a critical understanding and synthesis of multiple practice theories and evidence-based guidelines. **(NPTC 657, Dr. Terry)**

Appendix G

[Other Supporting Documents]

HOW TO SETUP SMS REMINDERS IN EPIC

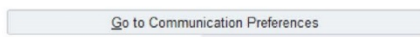Follow these steps to ENABLE text message appointment reminders for your patients.

Step 1. Locate the Demographics Button in EPIC, it is either on your left side bar or under the "more" button on the bottom left.

Demographics

Step 2. Click on the Addition Information Tab.

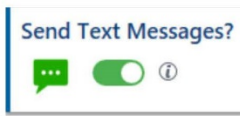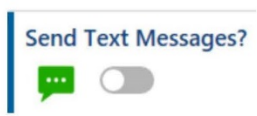Additional Information

Step 3. Click on "Go to Communication Preferences."

Go to Communication Preferences

Step 4. Scroll Down to the VERY BOTTOM and click the slide bar so that it is enabled.

From Disabled   To ENABLED

Send Text Messages?   **Send Text Messages?**

Step 5. Once completed you should see Green Text Message Boxes in the appointments section.

and All Groups	Mail	Phone	Text Message
eral Communication Preference			
pointments			

Extra: Please ask patient if they want to sign up for mychart. If so, please give them the my chart card and have them follow up with Administration at the front desk before leaving.

THANK YOU!!!!

Appendix H

CITI PROGRAM

Completion Date 10-Sep-2019
Expiration Date 09-Sep-2022
Record ID 24717380

This is to certify that:

Matthew Rocklage

Has completed the following CITI Program course:

Not valid for renewal of certification through CME. Do not use for TransCelerate mutual recognition (see Completion Report).

Human Subjects Research - SBR (Curriculum Group)
Social & Behavioral Research - Basic/Refresher (Course Learner Group)
1 - Basic Course (Stage)

Under requirements set by:

University of San Diego

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?wa67aaee0-f39e-4dde-9770-a7be519e2a11-24717380

CITI PROGRAM

Completion Date 10-Sep-2019
Expiration Date 09-Sep-2022
Record ID 24717383

This is to certify that:

Matthew Rocklage

Has completed the following CITI Program course:

Not valid for renewal of certification through CME. Do not use for TransCelerate mutual recognition (see Completion Report).

GCP – Social and Behavioral Research Best Practices for Clinical Research (Curriculum Group)

GCP – Social and Behavioral Research Best Practices for Clinical Research (Course Learner Group)

1 - Basic Course (Stage)

Under requirements set by:

University of San Diego

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?wedafcddf-5ef7-4e79-b940-5fd84d8d1318-24717383