

Title: “Texting for Mental Health: A Case Management Approach in the Free Clinic Setting”

Location: Pocatello Free Clinic, 429 Washington, Pocatello, ID 83201

Dates: Awarded: August, 2016, Program: Sept., 2016-April, 2017, Final Report: May, 2017

Authors: Cynthia Bunde, MPAS, PA-C (PA); Callie Ceci, LSW (Case Manager); Kristina Jordan, AAMA, CMA (Executive Director); Mindy Hong (former Executive Director); Alan Mirly, MBA, PA-C (statistical analysis)

Program Description:

The nccPA Health Foundation funded a unique pilot program proposed by the Pocatello Free Clinic (PFC) using texting as the foundation of case management for uninsured patients with mental health diagnoses. The goal was to improve outcomes in a highly disparate patient group by using a more comprehensive and technologically advanced approach, compared to the traditional clinical model of simply scheduling appointments with a provider and receiving prescriptions. Often, care for these patients is fragmented and patients lack the health literacy to utilize community mental health resources. This PA-led program utilized interdisciplinary partnerships including physician assistant, pharmacy, and social work students to deliver services in an underserved setting. The initial phase included patient recruiting and enrollment, as well as customizing text messaging curriculum. Once selected, twenty-four participants then met with the staff PA and Case Manager for initial intake appointments. For twelve weeks of the program, text messages were utilized for condition management and participant skill building. Examples of this support include reminders to take medications as prescribed, refill medications before running out, communicate with clinic staff if side effects occur, mood rating surveys, and stress reduction resources. At the completion of the text messaging 12-week program, participants again met with the Case Manager. At the initial and final appointments, participants completed questionnaires related to their mental health status and were given \$20 gas card incentives. The participants met at least twice with the staff PA during the program to manage their mental health condition(s). Data has been collected and analyzed, with plans to disseminate findings to PA and social work journals.

Program Outcomes and Measures:

The Texting for Mental Health provided much insight into the cost-efficient and time-efficient management of mental health conditions in a free clinic environment, both in objective and subjective terms. The Case Manager notes, especially for highly engaged participants, the program has resulted in fewer crisis situations. One participant proudly reported that she would have normally gone to the emergency department for pain after a minor back injury, but thanks to her resources provided via this program, she did some stretching and utilized self-care solutions instead. The clinic staff truly believes that crisis-management interventions, along with a solid support system, can be cost effective in preventing over-utilization of emergency departments. The staff PA, Cynthia Bunde, also reports subjective satisfaction with the case management aspect, resulting in improved clinic communication about patient mental health. The Case Manager was able to relay feedback about patient incarceration or probation violations, increased suicidal intent, medication side effects or similar concerns and the PA could then rapidly adjust the treatment regimen appropriately, rather than waiting for the next scheduled patient appointment.

For objective measurement of program success, data was collected and analyzed on all program participants. Goal enrollment was 24 patients, however some patients were lost to follow-up early in the program and additional participants were recruited. Data is included for a total of 27 participants; however only 17 complete sets of pre- and post-program data were obtained. Unless otherwise indicated, all measures reported below are based upon total data. Program non-completer data has not been excluded. The participant population was 70.4% female, with a mean age of 41.6 years. The estimated value of the prescriptions provided to program participants through PFC was \$12,862.21, based upon the value of medications as priced through GoodRx.com.

Objective 1: Reduce no-show rate

PFC staff hoped to show program participants demonstrate an understanding of the importance of appointment compliance by maintaining a no-show rate below 12%, by the completion of the program. “No-show” indicates that a patient did not show up for his or her scheduled appointment and did not call to cancel or reschedule. The baseline data is the general PFC no-show rate of 16% at the time of grant submission (Summer 2016). Program participants were scheduled for a total of 232 appointments during the study period. (This includes all medical, case management and volunteer chiropractic appointments.) Program participants no-showed for a total of 21 of these appointments, resulting in a 9.05% no-show rate. Preliminary data shows that case management and the texting intervention successfully reduced the participants’ no-show rate.

Objective 2: Increase patient ability to manage their illness

Obviously, this objective can present challenges in measurement and data collection. For simplicity in objectifying responses, the PFC staff measured the patients’ perceptions of their confidence to manage their illness, using the simple, visual single question “My Health Confidence” rating scale, developed by Dr. John Wasson. In this self-administered questionnaire, the patient selects 0-10 on a visual scale with a higher score indicative of improved confidence that a patient “can control and manage most of your health problems.” Mean pre-program health confidence score was 5.87 and mean post-program score was 7.29.

A paired-samples t-test was used to determine whether there was a statistically significant mean difference in patient health confidence before and after the text messaging intervention. The pre-program Health Confidence mean score was 5.868 for all participants (5.971 for the 17 completing participants). The post-program mean score on the Health Confidence Scale was 7.290. The data have a normal distribution with skew and kurtosis within acceptable limits. Participants had change from pre-intervention (5.971 +/- 1.988) to post-intervention (7.290 +/- 1.724). This was a statistically significant increase of 1.323 (95% CI, 0.349 to 2.298), $t(16) = 2.298$, $p = .011$, $d = 0.708$. This data suggests the intervention of texting via case management improved patients’ perception of their ability to control their health.

Objective 3: Demonstrate improved mood

Although there are numerous high-quality, standardized mood rating scales available, the PFC staff selected the Patient Health Questionnaire (PHQ-9) for use in this program. The PHQ-9 is validated, peer-reviewed, standardized and requires no permission to reproduce. Because some patients in the program also have anxiety disorders, the related GAD-7 tool was considered. However, due to the small number of participants, only the PHQ-9 was administered to promote better consistency. PHQ-9 asks nine depression-related questions, each rated for frequency (ranging from “not at all” to “several days” to “more than half the days” to “nearly every day”), with scores possible from 0 to 27, and higher scores representing more severe depression. Mean pre-program PHQ-9 score was 14.52 for the initial pool of 27 and the mean post-program score was 9.24.

A paired-samples t-test was used to determine whether there was a statistically significant mean difference in PHQ-9 scores before and after the text messaging intervention program. The pre-program PHQ-9 mean score was 14.52 for all participants (14.41 for the 17 completing participants). The post-program mean score on the PHQ-9 was 9.24. The data have a normal distribution with skew and kurtosis within acceptable limits. Participants had change from pre-intervention (14.41 +/- 5.75) to post-intervention (9.24 +/- 4.603). This was a

statistically significant decrease of 5.176 (95% CI, 1.908 to 8.445), $t(16) = 3.358$, $p = .004$, $d = 0.993$. This suggests the intervention led to improved mood in the participants.

Successes, difficulties and unexpected outcomes

As demonstrated above, program successes are many, with all three objectives met.

Difficulties were encountered, but many were anticipated, such as recruitment and follow-up problems. Many patients expressed interest in program participation. However, several patients who initially signed up had trouble returning to the clinic to complete their intake appointments with the Case Manager. Some common causes were scheduling difficulties, transportation problems, incarceration, lack of telephone or other similar hurdles. These challenges are already well known to our staff and many cannot be easily solved. To address this specifically in regard to completing recruitment of our 24 participants, the Case Manager shifted some paperwork so it could be completed immediately upon program enrollment and consent, without a need for a return appointment, and by filling the slots with other interested patients who can complete the program. (Stress-reduction tips were still offered to those patients, even if they were unable to complete all of the program requirements.) For future projects, we will plan a much higher initial number of participant referrals in order to enroll the desired number quickly. We would also schedule program intakes to occur all at once, over a two week period, to allow more of a cohort enrollment, for similar programs in the future. Or, alternately, if a long-standing case management/texting program was enacted, participants could be simply enrolled in an ongoing basis.

Follow-up can be problematic in any medical practice and in any study. However with 17 participants completing all portions of the program out of the expected 24, staff are pleased with this rate. One or more patients obtained insurance during this time and no longer qualified for clinic services. Another exhausted his medication resources at our clinic and sought care elsewhere. Some simply no longer responded to clinic calls for appointments. Only one participant actively withdrew from the program.

Another challenge encountered was a delay in finalizing the content of the text messages through CareMessage and we were unable to personalize messages to a certain extent. CareMessage later changed their platform making it more user-friendly. The appropriate utilization of PA students also created a quandary. Typically, first year PA students from Idaho State University (ISU) volunteer with a PA faculty member for weekly clinics at the PFC. Unfortunately, the program time frame fell early in their clinical education (before any psychiatric courses), and we were unable to utilize PA students for chart review as we had anticipated.

All communication and questionnaires were conducted in English language only. Some PFC patients utilize Spanish as their native language and, if this program was expanded, staff would recommend offering the program fully bilingual. Spanish-speaking patients were not specifically recruited; however they were not prevented from participating in this program.

PFC staff cannot identify any exceptionally unexpected outcomes from this program. As reported in the mid-grant report, some interesting trends which may contribute to mental health status were identified in the biopsychosocial assessments, showing: 82.3% of participants have past or current drug use, 82.3% of participants have past or current probation, 64.7% of participants dropped out of school and did not receive their high school diploma, 47% of participants witnessed violence in the home when growing up, 76.5% also

witnessed drug use in the home as young children, 47.1% of participants have been incarcerated in their lifetime, 47% of participants have been sexually abused during their lifetime, and 47.1% of participants have been married more than once in their lifetime.

Staff had also planned to assess medication compliance using a measurement tool pre- and post-intervention. Request for use of a licensed tool was denied and medication compliance cannot be reported. However there are techniques already in place at the Pocatello Free Clinic to improve medication compliance. These include: provider/staff education to patients about continuing medications as prescribed and removing barriers that patients seen in traditional settings experience (additional trip to pharmacy and paying for prescriptions). The PFC houses a small dispensary on-site and is often able to fill common mental health medications immediately after provider appointments, at no charge to patients. If the PFC does not have the medication on-site, staff offer multiple programs to provide no- or low-cost prescriptions to patients. By removing a trip to the pharmacy and expenses, our PFC patients may already be more likely to regularly take medications. Additionally, the clinic utilizes a variety of pharmacy student volunteers who can counsel patients about their medications.

Impact on the provider community and the patient community

The impact of using a social worker for case management in a primary care clinic can dramatically reduce the time burden on providers. Since the PFC has partnered with the local probation and parole office and as state resources dwindle, mental health issues dominate the chief presenting complaint. Other clinics may wish to adopt this interdisciplinary approach to mental health care. Additionally, the patient community benefits by improved mental health (as reported above in Program Outcomes and Measures) and increased services. Relying on a Case Manager to gather extensive biopsychosocial history, provide community resources and remain in contact with the patient frees up the staff provider to see more patients, with shorter wait times.

Partnerships resulting from the program

One major partnership that developed as a direct result of this program is that of the PFC with the Idaho State University (ISU) Social Work program. Ms. Callie Ceci was able to utilize her skills as a social work intern to serve as the Case Manager at the PFC. Her instructors were very impressed with the opportunities available at our clinic and they will likely continue sending interns. The program helped strengthen existing relationships with ISU Family Practice residency, Physician Assistant Program and College of Pharmacy, as well as Human Development Center and the corrections system. Our Case Manager engaged the following community partnerships to directly benefit program participants: Aid For Friends (housing assistance), St. Vincent de Paul (utilities payment assistance), Southeast Idaho Community Action Agency (utilities payment assistance), and Habitat for Humanity (help with home furnishings). A developing partnership, partially resulting from this program, is that with the ISU Occupational Therapy (OT) Department, who plan to initiate a mental health OT student practicum at the PFC starting Fall, 2017.

Plans to replicate or sustain this program

The PFC plans to retain Ms. Ceci as a licensed social worker (LSW) to continue to provide valuable services for patients, and work with Ms. Bunde and volunteer providers. Texting and case management services will continue to be offered, although more on a case-by-case/referral basis and without the incentive payments and collection of questionnaires. Staff are seeking ways to continue funding for Ms. Ceci's position. As mentioned above, mental health Occupational Therapy services will be available to our patients from ISU

faculty and students soon. Their services are volunteer and will allow continuation of mental health case coordination, even if funding for a social worker does not continue.

PA involvement

The PFC staff PA, Cynthia Bunde, saw all program participants, and five participants saw another PA besides the staff PA. One PA faculty member was involved as a volunteer provider, and another PA faculty member was involved in statistical analysis of data. Statistics were not kept on number of PA students involved. Students volunteered in weekly evening clinics, but many times were in class and unavailable during regular clinic hours when most program participants were seen.

Other health professions involvement

The PFC employs one part-time PA, Cynthia Bunde, and utilizes volunteer providers, ranging from D.O.’s, M.D.’s, PA and NP and resident physicians as well. Three chiropractors volunteer at the PFC and ten participants utilized chiropractic services. Seventeen participants saw volunteer providers (PA, MD, DO and/or chiropractors), in addition to the staff PA and Case Manager, during the study period. First-, second- and fourth-year pharmacy students regularly volunteer at the PFC. Many of these students were involved in dispensing medications for program participants. Student numbers/encounters are not typically tracked.

Number of hours for planning and execution of the program

The estimated number of hours for the PA was 50 hours (6 hours of program development, 24 hours of direct patient care, 12 hours coordinating services with the Case Manager, and 8 hours for debriefing and evaluation). Cynthia Bunde’s hours were tracked up through 55 hours for this grant, but exceeded this (see below). Additional time spent on this project was either reimbursed through the regular clinic budget or not reimbursed.

The Case Manager’s estimated hours were 139 hours (24 hours of program development, 24 hours of conducting biopsychosocial assessments, 75 hours monitoring patients and coordinating services among staff and volunteers, and 16 hours for debriefing and evaluation). Again, Callie Ceci’s time exceeded the 139 hours, but additional time was not tracked and instead, reimbursed through the regular clinic budget.

The estimated time for the Executive Director for oversight and data compilation and evaluation was 60 hours, with this time coming out of matched funds from the general clinic budget. The former Executive Director (E.D.), Mindy Hong, resigned in January, 2017, and a new E.D., Kristina Jordan, was hired February, 2017. Because of this transition, E.D. hours related to this grant were not reliably tracked. Many of the duties of data compilation and evaluation, as well as report submission, transitioned to Cynthia Bunde and Callie Ceci. The patient population involved in this project is quite complex and staff recommends that more time be allotted to case management, and possibly for PA services, with possibly less need for E.D. time for future similar endeavors.

Impact on patients and community members

Twenty-seven participants were directly impacted by enrollment in this program. Overall, this group experienced reduced mental health burden, as evidenced by objectives #2, 3 and 4 above. Additionally, participant comments were favorable. Patient’s reported that, “the most helpful part about this program was

the tips that helped me cope with my feelings and make changes.” “ I really liked that information about free resources were always available to me. It made it easier to reach out and get the help I needed.” It is likely that family members and employers have also been impacted in a positive manner thanks to this program, but it is impossible to demonstrate that. Given the much-improved depression rating scales, patients theoretically would have been more functional in daily activities, relationships and employment.

Publicity for the PA profession

The former executive director, Mindy Hong, had announced the nccPA Health Foundation grant via the clinic's website and social media (Facebook). The nccPA announced this program through its newsletters. Staff plans to submit a press release to the local newspaper and the alumni association at Idaho State University, and post an update with the program results to its Facebook and website pages. Additionally, program details will be shared with the National Association of Free Clinics.

Dissemination of Program Outcomes and planned abstracts, manuscripts, etc.

PFC staff plans to submit the summary and findings of this program to PA and social work journals. Journal submissions are currently in-progress and copies of all publications will be made available to the nccPA Health Foundation. The staff are considering a submission for the Idaho State University Kasiska Division of Health Sciences Research Day, as well.

The Pocatello Free Clinic staff wishes to express much thanks to Kathy J. Pedersen and the nccPA Health Foundation for enabling us to bring this innovative program to our patients with mental illness!