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Improving adherence to mental health treatment in a low-income clinic

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Improving Adherence to Mental Health Treatment in a Low-Income Clinic

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James Madison University

In

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Abstract

The increasing prevalence of mental illness in the United States presents significant challenges for primary care providers in low-income settings. Integrated Behavioral Health (IBH) programs have resulted in improved general health for low-income participants; however, managing appointment adherence, in which the patient attends appointment as scheduled, is particularly challenging. The purpose of this pilot project was to implement bundled interventions at a low-income primary care clinic to improve patient adherence to behavioral health treatment. The bundle of interventions included: 1) educational interventions emphasizing the benefits of IBH care 2) warm patient handoffs between the primary care provider to a behavioral health specialist at the primary care appointment, and 3) follow-up calls by behavioral health counselors for missed appointments. After the introduction of interventions, the average number of patients who no-showed for their appointment decreased by 60%, and the average number of patients who cancelled decreased by 15%. These differences were significant ($\chi^2 = 9.263$, $df = 2$, $p < 0.01$). This pilot project showed that patients who were exposed to the bundle were more likely to keep their appointments and less likely to miss.

Introduction

Mental health disorders are common, functionally impairing, and costly. In 2015, there were an estimated 43.4 million adults aged 18 or older in the United States with mental illness. This number represented 17.9% of all U.S. adults. (Center for Behavioral Health Statistics and Quality, 2016). Mental illness affects nearly 49% of patients in primary care settings serving low-income individuals (Wray, 2013).

Individuals benefit from evidence-based, collaborative Integrated Behavioral Health (IBH) care; however, many low-income adults and families do not receive beneficial mental health treatment (Santiago, Kaltman, & Miranda, 2013). Nationally, the unmet need for mental health services increased from 4.3 million in 1997 to 7.2 million in 2010 (Roll, Kennedy, Tran, & Howell 2013). The Behavioral Health Barometer, Virginia (2014) reports that: 1) 59% of adults reported improved functioning from treatment received through the Virginia public mental health system as opposed to 70% nationwide, and 2) among adults served in Virginia's public mental health system in 2013, 60.5% of those aged 18–20, 53.4% of those aged 21–64, and 89.1% of those aged 65 or older were not in the labor force.

The need for behavioral health services exists locally in Rockingham County and Harrisonburg, Virginia. A Community Needs Assessment acknowledged that behavioral health related hospitalizations are an important indicator of community health status (Community Health Needs Assessment, 2015). In the assessment, 703 per 100,000 patients discharged from the local hospital had a behavioral health diagnosis as compared to 680 per 100,000 statewide. The leading diagnoses for these discharges were affective

psychoses (55%), schizophrenic disorders (13%), and depressive disorders (6%) (Community Health Needs Assessment, 2015).

The Affordable Care Act in 2010 emphasized and promoted the use of integrated primary and behavioral health care services. Primary care clinics that are integrated provide behavioral health services in addition to primary care. Integrated programs help organizations improve outcomes by increasing access to mental health services and improving collaboration between specialties (National Committee for Quality Assurance, 2016). Accustomed to collaborating with various health care systems to meet the health needs of underserved clients, low-income clinics (free, low-cost, and sliding scale) are well suited for integrated programs.

This pilot project enabled a low-income clinic to test and evaluate the use of a bundle of interventions to improve adherence to mental health treatment. Pilot studies are a first step in the development of complex interventions because they help avoid duplication of efforts in assessing the feasibility of interventions for future research (Thabane, 2010). Results from this pilot can help facilitate the implementation of bundled interventions in a larger organization or inform the design of future research projects.

Problem Statement:

A new Integrated Behavioral Health program at a low-income clinic had high rates of missed appointments (43%). Over half of the patients counseled never returned for a second session. To promote the mental health of low-income individuals, new interventions were needed to improve behavioral health appointment adherence of clinic patients.

Specific Aims:

The aim of this pilot project was to demonstrate the effectiveness of bundled interventions at a low-income clinic to increase appointment adherence leading to improved overall health, decreased costs, and increased access to mental health services.

The project objectives were to:

1. Increase the number of patients receiving mental health treatment.
2. Reduce the number of missed appointments from cancellations and no-shows.
3. Decrease patient dropout rates after the initial appointment.
4. Decrease the number of ED visits of patients in mental health treatment.

Literature Review:

The databases MEDLINE, CINAHL, and PsycINFO were searched using the following key words: mental health, behavioral health, integrated behavioral health, integrated care, collaborative care, low-income, adherence, appointment compliance, and interventions. The terms “mental health services” and “behavioral health” were used in searches in an attempt to ensure that all documents that examined mental health needs were located. The terms “integrated”, “embedded”, and “collaborative care” were included since these words are used interchangeably in behavioral health literature.

Appointment adherence is particularly challenging in the long-term management of both chronic and episodic disorders since individuals with serious mental illness are more likely to miss appointments and show poor compliance with the prescribed plan of care (Defife al., 2010). Using scales to determine the severity of mental disorder and level of social disorganization, Killaspy, Banerjee, King and Lloyd (2000) found that those who miss psychiatric follow-up outpatient appointments are more unwell, more poorly socially functioning, and have a greater chance of dropout from clinic contact and

subsequent hospital admission than those who attend. They concluded that appointment adherence is especially important for those with severe mental illness, since those who drop out after their first contact may experience significant deterioration in their mental state. Primary care patients that have a high propensity to no-show will have suboptimal clinical outcomes and higher rates of acute care utilization compared to those with a lower propensity to no-show (Hwang et al., 2015).

Clinicians who use a bundle or combination of interventions that utilize available resources appear to have higher rates of success. A literature review by Lefforge, Donohue, and Strada (2007) demonstrated that attendance improvement interventions were shown to be particularly effective when they employed multiple, empirically derived intervention strategies. Interventions they reviewed included a combination of transportation vouchers, orientations, letters, home visits, patient contracts, and prizes. Bundles appear to have a greater impact than single interventions but no research points to one particular bundle or specific combination of interventions that work well together.

Research has addressed the importance of improving mental health literacy levels through education and insight. Mental health literacy embodies having sufficient knowledge to aid patients in the recognition, management and prevention of mental disorders (Jorm, 2012). Wrigley, Jackson, Judd, & Komiti, (2005), conducted research in a rural town that demonstrated how low levels of mental health literacy correlated with individuals not seeking help for mental health problems. They recommended that efforts to improve attitudes to help-seeking should focus on reducing stigma and improving mental health literacy regarding the causes of disorders. Raising mental health literacy improves attitudes and willingness to be treated. Nose, Barbui, and Tansella (2003)

revealed in a systematic review that in 13 of 81 (16%) studies, insight (understanding about treatment and medication) had a positive association with adherence. Lack of insight was associated with non-adherence in 14 of the 81 studies (17%). Poor adherence with mental health referrals in the elderly was associated with a lack of perceived need (Mojtabai, 2005). Bonabi et al. (2016) concluded that mental health literacy, positive attitudes to help seeking, and perceived need for treatment, significantly predict the use of psychotherapy over time.

Patients with early follow-up (a follow-up phone call or visit with a counselor or care manager within three weeks of treatment initiation) were less likely to drop out of behavioral health care and more likely to receive appropriate pharmacotherapy (Bauer et al., 2011). In an underserved area, Clouse, Williams, & Harmon (2016) found that telephone engagement by a Psychiatric Nurse Practitioner which included an introduction and discussion of the behavioral health treatment plan reduced the rate of no-show rates from 27% the previous year to 20% in a three-month period.

The goal of warm handoffs (immediate, in-person referrals between primary care provider and mental health specialist) is to ensure that individuals will feel comfortable and not judged by healthcare providers during visits (Manoleas, 2008). Davis, Moore, Meyers, Mathews, and Zerth (2016) concluded that as little as five minutes of contact with a primary care mental health specialist led to a statistically significant increase in the likelihood of completing a referral when compared to the absence of contact with a provider. Horevitz (2013) however, found that not all warm handoff referrals are experienced as “warm” to patients, and that the strength of the patient-provider

relationship is a key component affecting patients' experience of the referral, and subsequent decision to engage in depression treatment.

Theoretical Framework:

The project followed the Standards for Quality Improvement Reporting Excellence (SQUIRE) guidelines to provide a framework and guide for project reporting. SQUIRE guidelines are intended for reports that describe system level work to improve the quality, safety, and value of healthcare. It guides the use of methods to establish that observed outcomes were due to the intervention(s) (Standards for Quality Improvement Reporting Excellence, 2015).

In addition, the Plan-Do-Study-Act (PDSA) was incorporated for evaluation of the interventions. It is derived from the Deming Quality Model and has been effectively applied in health care settings, including low-income clinics. It uses easily adaptable techniques to analyze data and measure compliance to expectations that have already been proven to improve patient outcomes (Baker, 2014). The four stages of the PDSA cycle (see Appendix I) can be repeated as part of a cycle of continual improvement. The use of the PDSA model encourages learning, reflection and validation throughout implementation of the project (Institute for Healthcare Improvement, 2016). It was chosen as a framework for this project after proving to be successful with other quality improvement approaches in this organization.

The theory of planned behavior guided the intervention focused on education. This theory, developed by Ajzen, (1991) links beliefs and behavior and provides useful information for the development of communication strategies (See Appendix II). It is frequently used in evaluation studies. Ajzen believes that the best predictor of behavior is

intention. Intention is the cognitive representation of a person's readiness to perform a given behavior, and it is considered to be the immediate antecedent of behavior. Intention is determined by the following three things (Ajzen, 1991):

1. Attitude: Only specific attitudes toward the behavior in question can be expected to predict that behavior.
2. Subjective norm: an individual's perception about the particular behavior, which is influenced by the judgment of significant others (e.g., parents, spouse, friends, teachers).
3. Perceived behavioral control: Influences intentions. Perceived behavioral control refers to people's perceptions of their ability to perform a given behavior.

The Theory of Planned Behavior was utilized in this project to design interventions that target mental health program adherence. Education and follow-up conversations with patients on the benefits of mental health services and integrated care can promote positive attitudes and improve motivation to pursue healthy behaviors. In this project, brochures, posters, and discussions with clinic staff were designed to portray IBH care as a positive measure that contributes to overall well-being (see Appendix III, IV). In addition, ideally, the discussion that occurs during the provider/patient follow-up phone call will raise awareness that subjective norms are favorable towards counseling. The belief that mental health problems are a sign of weakness and treatment socially unacceptable will be negated and patients will believe that they can improve health by attending sessions.

Methods

Context:

The setting of the project was a low-income clinic in rural, southeastern United States. Located downtown on the bus line, over one-thousand patients consider the clinic their medical home. It is staffed with thirteen employees and over one-hundred volunteers. Local businesses and individuals donate 85% of funding needed for operations. These monetary donations along with pharmaceutical and service donations keep all services free for established patients. Twenty-six percent of patients speak a language other than English. Of these other languages, the most frequent are Spanish, Arabic, Russian and Kurdish (Clinic Summary Sheet, 2016). Interpreter services are available for most languages with the aid of volunteers.

In 2016, an Integrated Behavioral Health program was established utilizing on-site counselors to provide mental health services to all who met clinic eligibility requirements including uninsured, income below the federal poverty level, and resident of Harrisonburg or Rockingham. At the time, 21% of patients had a diagnosis of chronic depression and or anxiety. The IBH program required room renovation, incorporation of a screening tool for stress, and orientation of counselors to the role.

In the first eleven months of the program, 158 patients were served and 333 counseling sessions attended. Patients verbally reported to staff that the sessions were helpful; however, preliminary data gathered through the electronic health record (EHR) scheduling system revealed:

1. 43% of appointments were missed from cancellations or “no-shows”
2. 52% of patients never returned for a 2nd session

3. 78% had 3 or fewer visits
4. Appointments from those missed were not available for others needing the mental health services

The IBH program accepted referrals from two sources: eligibility and medical providers. Patients who were new to the clinic and met all eligibility requirements completed the Patient Health Questionnaire (PHQ-4) which was an ultra-brief tool used to detect both anxiety and depression. It consists of a two-item measure for depression, the PHQ-2 (sensitivity 83%) as well as a two-item measure for anxiety, the GAD-2 (sensitivity 81-83%) (Kroenke, Spitzer, Williams, & Löwe, 2009) (see Appendix V). A staff/volunteer in the eligibility department then scored the survey. Individual counseling services were offered if clients scored positive (> 0 in any section) on the survey. If the patient accepted (patient may refuse referral for treatment) it was considered an eligibility referral and they proceeded to the front desk to schedule an appointment with a volunteer mental health counselor (either licensed Mental Health Counselor, Psychologist, or doctoral student). Primary care clinicians also referred existing patients to counseling. Spanish speaking counselors were available. Interpreters were available for other languages; however, clients seldom requested them to avoid disclosing private conversations with a third party.

Study Population:

The researcher anticipated that a minimum of 25 client records would be reviewed for the pilot project. The population was low-income adults over age 18 but less than 65 with mental health needs who met eligibility criteria. A retrospective chart review proposed to look at six months of information on all patients scheduled for one or more

counseling sessions. The counseling session did not need to take place for the records to be included. Patients who spoke a language other than English or Spanish were excluded from the study, as the educational materials were only available in English and Spanish.

Interventions:

The project design was a longitudinal, descriptive, pilot project. A collaborative project team consisting of the researcher, administrator, nurses, nurse practitioners, counselors, and social worker convened and developed interventions based on: 1) clinic data that showed deficiencies in the program (% missed appointments, # appointments/patient) 2) research on best methods for evidence-based practice, and 3) the collaborative team's perception of the underlying problem and barriers. The team completed a worksheet for the first cycle of the PDSA (see Appendix VI) and devised a Behavioral Health Counseling Procedure (See Appendix VII) which incorporated the use of bundled interventions into new patient and follow-up visits. This procedure was updated after data analysis. Interventions were intended to increase participant's motivation to adhere to treatment and included the three elements listed below:

- 1) Education: Brochures/visuals/materials portraying the components of the clinic's integrated model of care and the benefits to holistic treatment were designed and made available to all patients. Patients received brochures in the initial eligibility appointment on the benefits of multidisciplinary mental health/ behavioral health treatment and were informed that their providers may determine that counseling will help improve overall health. Posters were displayed in clinic rooms, bathrooms, lobby and the front desk. This education was intended to increase insight (knowledge of need and the integrated approach) and mental health literacy, decreasing fear and

- hesitation to seek and receive services. Patient education materials were screened for ease of readability using the Flesh-Kincaid Index. A score of 90-100 (very easy) was required for all materials. To ensure cultural competence, the materials were previewed by a Spanish-speaking patient and feedback incorporated.
- 2) Warm handoff: An introduction consisting of a warm handoff and tour of the mental health visitation rooms with Behavioral Health Counselors was done after the first medical visit. This was intended to increase the comfort level with counselors and improve understanding and awareness of the services offered.
 - 3) Follow-up: Follow-up calls were initiated by behavioral health counselors for missed appointments. For this pilot project, the counselors called all patients who missed counseling appointments to follow up on: 1) reason for missing appointment 2) motivation and intent to reschedule and continue with treatment 3) concerns related to treatment and/or social stigma. This step was intended to identify stressors and increase motivation to adhere to a treatment plan.

A pre and posttest measurement of data was chosen as the approach used to establish whether the improved adherence was due to the bundle of education, handoffs, and phone calls. Knowing it would not be possible to determine the effect of individual interventions, the study looked at the impact of intervention results collectively using Chi Square for statistical analysis.

Measures:

The researcher, with the assistance of clinic staff and volunteers, was responsible for gathering and analyzing the data. As a volunteer and former employee of the clinic, the researcher had the support of the Board and administration to implement this project.

Data was gathered and measured over a six-month period. A retrospective chart review provided pre-intervention baseline data followed by post-intervention data.

Sources of data included:

1. Clinic Electronic Health Record (EHR) for:
 - i) Number of mental health counseling sessions.
 - ii) Number of patients receiving counseling.
 - iii) Number of missed appointments (cancelled and “no-show”).
 - iv) Dropout rates (number of actual visits per patient).
2. Local Emergency Department: It was planned that the number of ED visits of those patients have attended counseling would be compared before and after interventions to determine if there was a relationship between the number of ED visits and counseling sessions resulting in improved health plus cost-savings to the community. However, due to the inability to obtain data from the local ED, this data was not collected and/or analyzed.

Analysis:

Data analysis included information collected from the clinic’s EHR. A retrospective chart review (pre-intervention) provided baseline data and consisted of visit information on all patients who were scheduled for one or more counseling sessions for two months between the dates of 01/01/17 through 2/28/17. The second time frame for data collection (post-intervention) lasted four months and was from 03/01/17 through 06/30/17. It consisted of the following data:

1. Number of mental health counseling sessions. This information was downloaded from the EHR using a “mental health chart notes report”. The researcher, who has

licensed access to the EHR and patient data, downloaded the report and manually entered it into an excel spreadsheet titled, *Behavioral Health Appointment Summary* (see Appendix VIII).

2. Number of missed appointments. This information was not available in an EHR report. The number of canceled and “no-show” appointments were counted manually by the researcher and entered in the spreadsheet, *Behavioral Health Appointment Summary*, that had columns for: 1) date of scheduled appointment, 2) whether the missed appointment was a no-show or cancelled, 3) reason provided for the missed appointment. At the initiation of the interventions, this data was recorded weekly in the Excel spreadsheet based on the missed mental health appointments for that week. No patient information was included in the spreadsheet.

Quality:

To ensure quality of the analysis, as much information as possible was downloaded directly from the EHR. Data that was manually entered was cross checked three times by the researcher. A SPSS and quantitative data consultant reviewed excel data and the accuracy of analysis.

Ethical Considerations:

This pilot project held minimal risk for the patient and health care workers. Patients in the project received three bundled interventions of education on the benefits of IBH care, warm handoff referrals, and a follow up phone call from a provider. The risks of harm or discomfort anticipated in the proposed research were not greater, considering probability and magnitude, than those ordinarily encountered in daily life. Identifiable, private information was not collected on any patient and no names were included on the

data reports. Instead, a unique identifier assigned by the researcher was used. The code for linking patient names with the unique identifier was stored on a private server accessible only by the researcher. These Excel spreadsheets were safely stored on the clinic's private server in a drive accessible only to the Executive Director, Office Manager, Accountant, and the researcher.

Approval for the project was obtained from the Institutional Review Boards (IRB) at the local hospital and university. Since the purpose of the patient education and phone calls were meant to refine the interventions and increase adherence, not identify personal stressors, informed consent was not needed; however, a cover letter was given to all new patients at the clinic and those receiving mental health treatment (see Appendix IX).

Results

Over the course of the study, 33 new patient records that met criteria were reviewed. This exceeded the expected number of patients for the pilot (25) and resulted in 296 mental health visits scheduled between January 2017 through June 2017. Of the 296 scheduled mental health appointments, 104 were in the pre-intervention group and 192 were post-intervention. Pre-intervention data consisted of two months of visits (Jan, Feb 2017) and post-intervention consisted of four months of visits (Mar, April, May, June 2017).

Table 1 Project Timeline

<i>Nov. 2016</i>	Researcher performed a review of literature and gathered preliminary IBH data that justified need of program.
<i>Dec. 2016</i>	Researcher gathered key players (counselors, providers, front desk staff, nurses, social worker) and formed a collaborative project team. This team reviewed the preliminary data, determined a need for interventions, and established the aim of the program.
<i>Feb. 2017</i>	Project team developed educational materials and designed a plan for implementing bundle interventions.

<i>Feb. 10, 2017</i>	Researcher submitted IRB review requests to the university and local hospital.
<i>Feb. 2017</i>	After IRB approval, staff and volunteers were trained by the Researcher and interventions commenced. A retrospective chart review was conducted to collect pre-intervention data from 01/01/17 – 02/28/17.
<i>Mar. 1 – June 30, 2017</i>	Bundled interventions of education, warm handoffs, and follow up calls were integrated into IBH program. Data was collected on a bi-weekly basis and entered into Excel spreadsheets.
<i>July 1, 2017</i>	Project team concluded data collection and began final analysis.
<i>Sept 2017</i>	Project team met to formulate PDSA plan for improvement
<i>Nov 2017</i>	Outcomes were reported to stakeholders: donors, staff, volunteers, counselors, University Counseling Services, and patients.

A modification was made to data collection from what was initially planned.

Data from December 2016 was going to be included in the pre-intervention phase but it was excluded from the study. On January 1, 2017, the clinic began an incentive program that allowed patients in all appointments (not just mental health) to obtain a month of free medication for going one full year without a “no-show” visit. To prevent this contextual element from interacting with the intervention, data from December was excluded. This kept the impact of the new incentive program element consistent throughout the entire project.

Seventy-two patients were seen in the IBH program during the study period and the number of visits analyzed. Pre and post data was compared for statistical significance. Data was entered in SPSS Statistics version 24 and Excel. Chi-Square was used for statistical analysis. The average number of mental health sessions that were attended by a patient pre-intervention was 30 and post-intervention, 34. Patients were 13.3% more likely to adhere to the appointment after the bundle of interventions was introduced (See Figure 1).

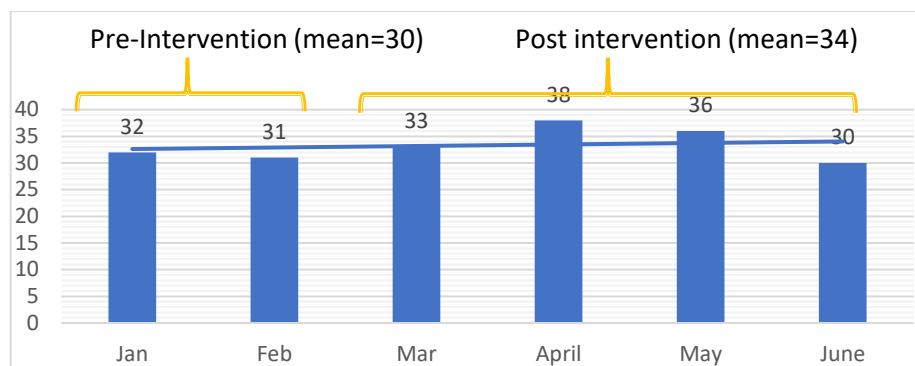


Figure 4: Number of patient sessions with a Mental Health Counselor pre and post intervention

Of the thirty-three patients who were new to the clinic during the six months of data collection, two out of 13 (15%) in the pre-intervention group who received treatment with a counselor continued treatment after 1-2 sessions. Five out of 20 (25%) stayed in treatment in the post-intervention group, showing a 66.6 % increase for patients staying in treatment after the bundle was introduced (see Figure 2).

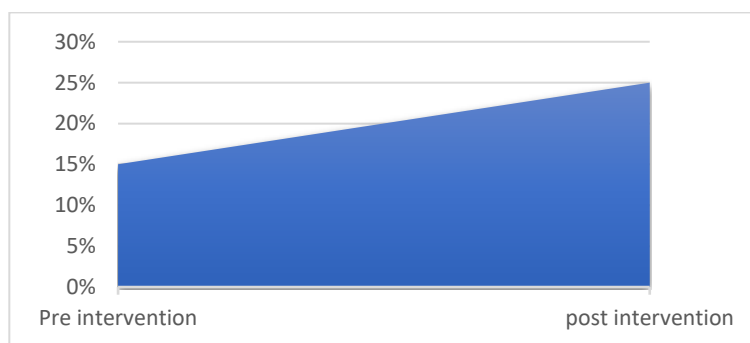


Figure 5: Percentage of new patients who stayed in treatment >2 sessions

To determine the effect of the bundle of interventions on appointment status (seen, no-show, cancelled), the number for each was calculated pre and post intervention (see Table 2). The mean for each group and percentage change was then determined (see Figure 3). After the introduction of the bundled interventions at the clinic, the average number of patients who kept their scheduled appointments and were seen by a mental

health specialist increased by 22%. The average number of patients who no-showed for their appointment decreased by 60%, and the average number of patients who cancelled decreased by 15%. These differences were significant ($\chi^2 = 9.263$, $df = 2$, $p < 0.01$). After the intervention, patients were more likely to keep their appointments and less likely to no-show or cancel.

Table 2: Total number of seen, no-show, and cancelled visits

		Post-intervention status Crosstabulation			Total
		Seen	No-show	cancel	
Mental Health Visits	Pre-intervention	61	16	27	104
	Post-intervention	139	11	42	192
TOTAL		200	27	69	296

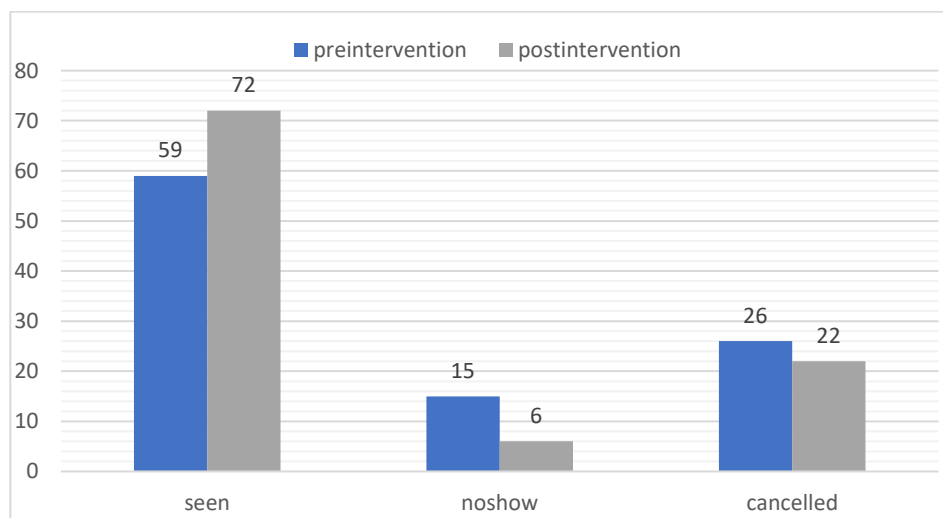


Figure 6: Pre and post intervention means of "seen", "no-show", and "cancelled" visits

Two of the bundled interventions, follow-up phone calls and warm handoffs, were influenced by contextual elements that were beyond the control of the researcher. The

first element was the resignation of two clinic staff members: a Nurse Practitioner and RN. This change limited the number of warm handoffs that could be performed. The second element was the turnover of student counselors halfway through the post-intervention phase. With this transition, new counselors were not informed of the procedure for follow-up phone calls, resulting in no follow up calls made during the last two months of data collection.

After the project data was analyzed and the weakness discovered, the collaborative team met to review challenges, improve sustainability, and guide future practice. Team discussion exposed the following barriers to the process for follow-up calls: 1) Counselors were calling only patients who no-showed for an unknown reason, not those who had notified the front office that they were going to be absent 2) The procedure and form for documenting calls had been moved to a location distant from the counseling rooms 3) new counselors rotating into the clinic were not being updated on the purpose and procedure for follow-up calls. Barriers to the warm handoffs included: 1) lack of an easy way to document the encounters 2) patient privacy issues and 3) lack of consistent personnel for process. A second PDSA worksheet for cycle 2 was developed to meet the barriers and incorporate new methods to improve and sustain the process (See Appendix X)

This pilot project aimed to address cost savings associated with mental health appointment adherence by examining local ED data. The hypothesis was that adherence to mental health treatment would provide a cost savings by decreasing the number of ED visits since mental health treatment improves the overall health of individuals (Defife et al., 2010). It was planned that the records of patients who were in counseling services

would be examined pre and post intervention to determine if the number of ED visits dropped after consistent mental health counseling. Unfortunately, during the data collection stage, the local hospital underwent an extensive EHR update that restricted the clinic's access to ED visit information. Despite multiple attempts to retrieve this information by both the researcher and Executive Director, it remained unavailable and the impact on health and cost-savings associated with reduced ED visits was unavailable for analysis.

Discussion

Findings of the pilot project validated the benefit of using a bundle of interventions to improve mental health appointment adherence. 71 patients participated in the IBH program during the study period and showed improved adherence with the 292 visits that were scheduled. 72% of scheduled appointments were kept after being introduced to education, follow-up phone calls, and warm handoffs as opposed to 59% who were not exposed. Patients were also more likely to remain in treatment after 1-2 visits. The implication of this is that patients felt more comfortable with counseling sessions and were more motivated to adhere to a behavioral health treatment plan.

The project had several strengths. First, the IBH program and procedures were already in place, providing an existing framework for improvement. Improving adherence enhanced the safety, efficiency and effectiveness of the established program. Second, staff and volunteers were successful in other projects at the clinic and were open to evaluation and change. Third, the interventions were not costly to implement, requiring only minimal resources for the printing of brochures, flyers, and posters.

Limitations:

The primary weakness of the program was that there was no way to determine if one intervention was more effective than another. Overall results were positive, but it is unknown which of the individual interventions of education, warm-handoffs, or follow-up calls had greater impact within the bundle, if any. This was complicated by the fact that an unknown number of participants received follow-up phone calls and handoffs. Although the health care providers acknowledged that these interventions took place, the imprecision in method collection resulted in an inaccurate count of those who participated. As a result, one could surmise that the education intervention was the most effective and the usefulness of handoffs and phone calls questionable.

Additional insight on the relationship between the cause of missed appointments and demographics such as age, race, mental health literacy level, and socioeconomic status would have been beneficial in understanding why the bundle worked for this low-income population. Demographics in this particular clinic will differ from others and could impact the replication and results of the program in other settings.

Low-income clinics are seldom part of a larger hospital systems and therefore lack the ability to acquire data needed for analysis of research. This dependence on others (i.e. ED data in this project) limits the extent for what is known regarding interventions and the improvement of health and cost savings associated with new processes.

Conclusion:

This project was useful because it piloted the implementation of an inexpensive bundle of interventions that could be well-suited to clinics and other low-income settings where resources are limited. The bundle was easy to incorporate into practice, consisting of simple educational materials and easy procedures for phone calls and handoffs. In this

pilot, results were impressive. The occurrence of missed appointments dropped significantly and overall adherence improved by 22%. The challenge lies in the capacity of small numbers of staff and volunteers to enact multiple interventions. This challenge must be acknowledged and understood ahead of time. Since the outcome was positive even though the handoffs and phone calls underperformed, additional research on utilizing the educational intervention alone would be useful.

The Plan-Do-Study-Act (PDSA) ensured sustainability of the initiative. The team met after six months of data analysis to celebrate the initial results, recognize the work that had been done, and address the low performance of the two interventions; follow-up phone calls and warm handoffs. Steps were identified to reduce future barriers and procedures were updated. These steps guided future practice; however, sustainability also depends on having an on-site leader or manager who is in charge of the process to continuously promote the interventions and to sustain excitement for the project. In this particular clinic, the Clinical Director who is responsible for ensuring clinic protocols are followed, will take over this responsibility from the researcher.

Suggested Next Steps:

The researcher delivered results of the project with the collaborative team in presentations at two clinic meetings; one for the volunteer counselors and another for the Clinical Services Committee (clinic committee responsible for clinic oversight and the implementation of clinical protocols). Clinic patients were informed of results through the monthly patient newsletter. Future plans for dissemination include submission to a professional journal for publication and presentation at a professional conference.

Success of an Integrated Behavioral Health and Primary Care program depends on a well-planned model that identifies appropriate, attainable, and positive outcomes for

the population. This pilot project highlighted the benefit of using multiple interventions to address adherence. Incorporating the use of education, follow-up phone calls, and warm handoffs was successful in improving attendance rates at mental health appointments. Low-income clinics with limited resources can easily replicate this program to improve mental health literacy, decrease stigma, and improve motivation, allowing vulnerable populations access to needed behavioral health treatment.

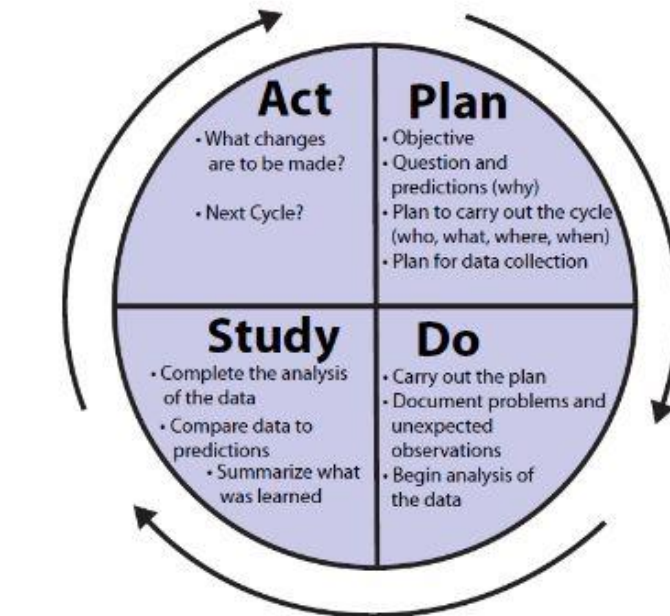
Funding:

This work was supported by resources and the use of facilities within the clinic, which provides free services to patients primarily through volunteers and donations.

Appendix I

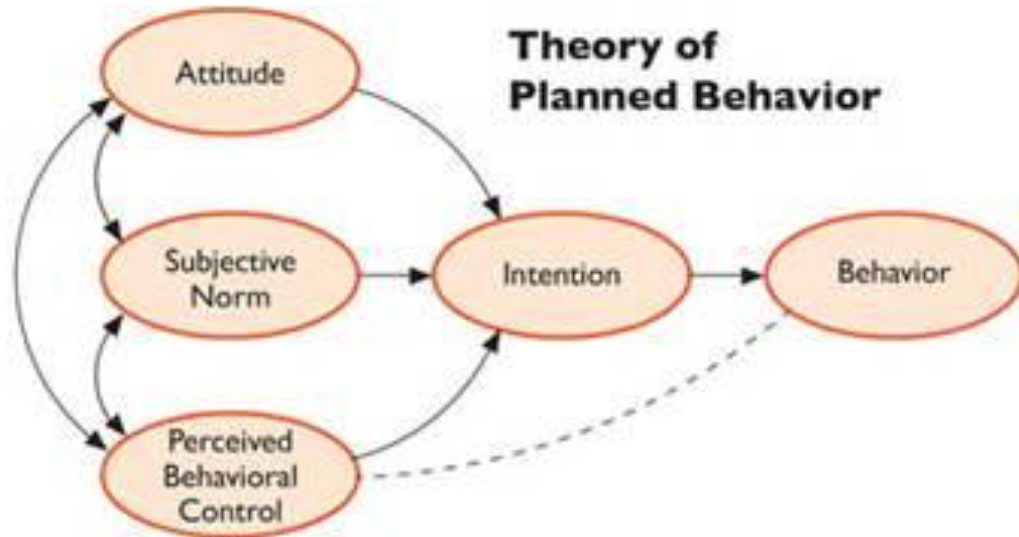
Plan-Do-Study-Act Cycle Approach to Quality Improvement

The PDSA Cycle for Learning and Improving



Appendix II

Theory of Planned Behavior



Ajzen, I. (1991).

Appendix III

PATIENT BROCHURE

Simple Ways to Improve Wellness

Mind:

- Find good friends who you can share thoughts with.
- Write in a journal, listen to music, or talk to family or friends when you are in need.
- Learn to manage stress in ways that work for your life.
- Be aware of triggers that make you want to use substances and have a plan that can help you avoid them.
- Talk to a mental health counselor.

Body:

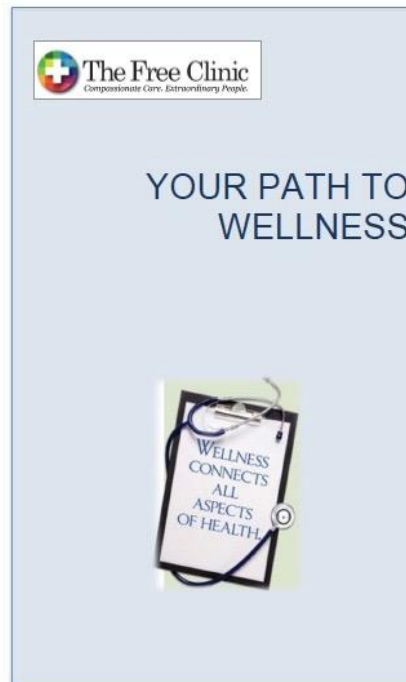
- Eat at home using fresh, healthy food.
- Get regular physical activity whenever you can.
- Get 7 to 8 hours of sleep a night whenever possible.
- Check your blood pressure, waist size, and blood sugar to prevent chronic conditions like diabetes.

Spirit:

- Use your spirituality to drive your actions and thoughts.
- Look for a group in your community that deepens your spiritual practice.
- Connect with others who share your beliefs.

Friendships:

- Make a date with friends for a movie, dinner, coffee, or other social activities.
- Keep in touch with family and/or friends.
- Make time to go to places where you can meet new people, or visit a new location.



At the Harrisonburg Rockingham Free Clinic, we believe that you can feel better and live longer.

We all want to be well. Wellness is when our mind, body, spirit, and social life are in balance.

It is important that you work toward wellness because it relates directly to the amount of joy and fulfillment you will have in life.

We also know that your personal path to wellness is different from everyone else's.

Four Key Elements to Wellness:

1. **Mind**—coping with life and getting along with others.
2. **Body**—the need for physical activity, healthy foods, and sleep.
3. **Spirit**—a sense of purpose and meaning in life.
4. **Social**—a sense of belonging and a well-developed support system.

THE WELLNESS WHEEL



MAKING THE FOUR ELEMENTS OF WELLNESS PART OF DAILY LIFE CAN IMPROVE MENTAL AND PHYSICAL HEALTH

Your personal path at the Free Clinic may include meetings with the following Health Care Workers:

- Primary Care (medical) Provider
- Mental Health Counselor
- Dietitian
- Physical Therapist
- Social Worker

Appendix IV

CLINIC POSTER



YOUR PATH TO WELLNESS

At the Harrisonburg Rockingham Free Clinic, we believe that you can feel better and live longer.

We all want to be well.


Wellness is when our mind, body, spirit, and social life are in balance.

It is important that you work toward wellness.

Wellness relates directly to the amount of joy and fulfillment you will have in life.

Your personal path at the Free Clinic may include meetings with the following Health Care Workers:

- Primary Care (medical) Provider
- Mental Health Counselor
- Dietitian
- Physical Therapist
- Social Worker



The Free Clinic
 Compassionate Care. Extraordinary People.

Health is a state of complete physical, mental and social well-being, and not merely the absence of disease. -World Health Organization

Appendix V

PHQ-4

Over the <u>last 2 weeks</u> , how often have you been bothered by the following problems? <i>(Use “✓” to indicate your answer)</i>	Not at all	Several days	More than half the days	Nearly every day
1. Feeling nervous, anxious or on edge	0	1	2	3
2. Not being able to stop or control worrying	0	1	2	3
3. Little interest or pleasure in doing things	0	1	2	3
4. Feeling down, depressed, or hopeless	0	1	2	3

Scoring:

PHQ-4 total score ranges from 0 to 12, with categories of psychological distress being:

None	0-2
Mild	3-5
Moderate	6-8
Severe	9-12

Anxiety subscale = sum of items 1 and 2 (score range, 0 to 6)

Depression subscale = sum of items 3 and 4 (score range, 0 to 6)

On each subscale, a score of 3 or greater is considered positive for screening purposes

The PHQ scales were developed by Drs. Robert L. Spitzer, Janet B.W. Williams, and Kurt Kroenke and colleagues. The PHQ scales are free to use. For research information, contact Dr. Kroenke at kkroenke@regenstrief.org

Appendix VI

PDSA (plan-do-study-act) worksheet Cycle 1

TOOL: *QI pilot project* **STEP:** *Improve Appointment Adherence* **CYCLE:** *1st*

PLAN

We plan to: Implement a bundle of interventions (education, warm handoffs, & follow-up phone calls) to increase the patient's comfort level with counseling sessions, identify stressors, and increase motivation to adhere to a behavioral health treatment plan. These measures will improve appointment adherence.

We hope this produces:

1. Higher number of patients in counseling
2. Fewer no-shows and cancellations
3. Fewer drop-outs after 1-2 sessions

Steps to execute (include who and when):

- Dec – Feb gather pre-intervention data
- Mar 1 initiate bundle
- Mar – June gather post-intervention data
- Sept evaluate using PDSA model
- Oct act on PDSA findings, incorporate changes into evaluation plan

DO

What did you observe?

STUDY

What did you learn? Did you meet your measurement goal?

ACT

What did you conclude from this cycle?

- PDSA complete/no modifications necessary/ need to standardize across the practice
- Conduct another PDSA cycle
- Will review again on
- Other comments:

Appendix VII

Policy and Procedure

Policy: Behavioral Health Counseling Sessions

Original Date: 12/21/2015

Revision Date: 10-02-17

Department: Clinical Management

1. Policy Statement, Scope of Policy and Purpose:

Evidence shows that the mental health system fails to reach a significant number of people with mental illness, and those it does reach often drop out or get insufficient, uncoordinated care. While patients typically present with physical health complaints, data suggests that underlying mental health or substance abuse issues are often triggering these visits.

Integrating mental health services into a primary care setting offers a promising, viable, and efficient way of ensuring that people have access to needed mental health services. Additionally, mental health care delivered in an integrated setting can help to minimize stigma and discrimination, while increasing opportunities to improve overall health outcomes. In *integrated models*, behavioral health care is part of the primary care and patients perceive it as a routine part of their health care. The Free Clinic collaborates with local Mental Health Specialist volunteers and with James Madison University Counseling and Psychological Services (CAPS) to provide these integrated services.

1I. Procedure:

1. **Eligibility – screening tool:** Patients will be asked to complete the *PHQ-4* (see addendum 1) during initial Eligibility Appointments and during renewals. The process for completing and recording the information on the form is as follows:

- a. Scoring: Completed forms will be scored by Eligibility during the visit.

PHQ-4 total score ranges from 0 to 12, with categories of psychological distress being:

- | | |
|-------------|------|
| 1. None | 0-2 |
| 2. Mild | 3-5 |
| 3. Moderate | 6-8 |
| 4. Severe | 9-12 |

*On each subscale, a score of 3 or greater is considered positive for screening purposes

- b. Referrals for positive screens: Patients who have a positive screen will be encouraged to attend a counseling session. If they aren't interested in therapy, the Eligibility worker will make a note on the PHQ-4 form stating, "Counseling services offered but declined".
- c. Scheduling appointments: If patient is eligible and agreeable to a counseling session, an appointment will be made by the front desk with "Mental Health Counselor" in the "Mental Health" calendar at check out.

2. Front Desk – reminder calls and documentation:

- a. Patient will be given a reminder call by front desk prior to apt.
- b. Patient will check in with front desk, front desk will flag as in *lobby*

3. Mental Health Specialist – documentation:

- a. Review the schedule, when EHR shows *in lobby*, escort patient from lobby to the counseling room.
- b. Open the patient encounter from the scheduling screen by clicking on *view encounter*.
- c. In *encounter details* change *note type* from *SOAP note* to *Mental Health Note*.
- d. Make sure the date is *today*.
- e. In the *Chief Complaint* section, click *edit* and make a brief note stating purpose of visit with plan and recommendations for Primary Care followed with name of counselor and degree.
- f. When visit is completed, change appointment status to *seen* on the schedule.
- g. At end of day, Mental Health Counselor will print a schedule and place it in "Carol's" box in the office.

4. Medical Provider Referral:

- a. Patient will be identified as a candidate for counseling by care team.
- b. Medical provider will introduce patient to counselor via warm handoff which is a brief introduction to the counselor and benefit of services. If counseling rooms aren't available for the handoffs, they will take place on the second floor in a location that can guarantee privacy of patient information.

5. Scheduling Future/Follow-up appointments:

- a. Follow up appointments will be scheduled by the Front Desk during check-out or by phone call.
- b. Counselor completes appointment slip including how many weeks for next visit and with which counselor.

6. Follow-up for Missed appointments:

- a. Mental Health Specialists will call *all* those who missed appointments either from “no-show” or “cancellation” *even if* they conveyed a reason for missing.
- b. Counselors will document the phone-call in the patient encounter note in the EHH. They will explore:
 - i. reason for missing
 - ii. any acute needs
 - iii. motivation to continue with follow-up visits

Appendix VIII

I

Behavioral Health Appointment Summary

Client#	Date of visit	visit#	attended	no-show	cancel	reason for missed apt.
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

Appendix IX

James Madison University

Cover Letter

Identification of Investigators & Purpose of Study

You are being asked to participate in a research study conducted by Janice Gandy, MSN, DNP student from James Madison University. The purpose of this study is to increase attendance at behavioral health appointments. This study will contribute to the researcher's completion of her Doctorate in Nursing Practice.

Research Procedures

This study will provide education, warm handoffs (primary care provider introduces the patient to a behavioral health specialist after the primary care appointment), and follow-up phone calls to patients at the Harrisonburg Rockingham Free Clinic who have been referred for counseling. It will involve the researcher reviewing the files of HRFC patients. The file review will collect information on the number of counseling visits scheduled and attended at the HRFC, and the number of Sentara RMH ED visits between the dates of 01/01/2017 and 06/30/2017.

Time Required

Participation in this study will require none of your time.

Risks

The investigator does not perceive more than minimal risks from your involvement in this study (that is, no risks beyond the risks associated with everyday life).

Benefits

Possible benefits from participation in this study include improved overall health for patients, cost-savings from decreased Emergency Department visits, and insight on useful interventions that can be used in multiple organizations to increase participation in behavioral health treatment programs.

Confidentiality

The results of this research will be submitted to a professional Community Health Journal for publication and for presentation at a professional conference.

While individual responses are obtained and recorded anonymously and kept in the strictest confidence, aggregate data will be presented representing averages or generalizations about the responses as a whole. No identifiable information will be collected from the participant and no identifiable responses will be presented in the final form of this study. All data will be stored in a secure location accessible only to the researcher.

The researcher retains the right to use and publish non-identifiable data.

At the end of the study, the data will remain on the private server at the HRFC for reference by those authorized.

James Madison University

Participation & Withdrawal

Your participation is entirely voluntary. You are free to choose not to participate. Should you choose to participate, you can withdraw at any time without consequences of any kind. Participation or nonparticipation will not affect the treatment that you receive at the Free Clinic.

Questions about the Study

If you have questions or concerns during the time of your participation in this study, or after its completion or you would like to receive a copy of the final aggregate results of this study, please contact:

Janice Gandy
School of Nursing
James Madison University
540-568-7656
gandyjg@jmu.edu

Erika Metzler Sawin
School of Nursing
James Madison University
540-568-5070
sawinem@jmu.edu

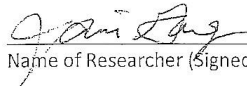
Questions about Your Rights as a Research Subject

Dr. David Cockley
Chair, Institutional Review Board
James Madison University
(540) 568-2834
cocklede@jmu.edu

Giving of Consent

I have read this cover letter and I understand what is being requested of me as a participant in this study. I freely consent to participate. I have been given satisfactory answers to my questions. I certify that I am at least 18 years of age.

Janice Gandy, MSN,
Name of Researcher (Printed)


Name of Researcher (Signed)

4-4-2017
Date

This study has been approved by the IRB, protocol # 17-037.

Appendix X

PDSA (plan-do-study-act) worksheet Cycle 2

TOOL: *QI pilot project*
CYCLE: *2nd*

STEP: *Improve Appointment Adherence*

PLAN

We plan to: Implement a bundle of interventions (education, warm handoffs, & follow-up phone calls) to increase the patient's comfort level with counseling sessions, identify stressors, and increase motivation to adhere to a behavioral health treatment plan. These measures will improve appointment adherence. (6 months have gone by since initial implementation of the bundle)

We hope this produces:

1. Higher number of patients in counseling
2. Fewer no-shows and cancellations
3. Fewer drop-outs after 1-2 sessions

Steps to execute (include who and when):

- Project team will continue implementing interventions with referred patients per procedure
- Project leader will educate new counselors on bundle of interventions
- Project leader will post handoff guidelines for counselors in easily accessible location

DO

What did you observe?

The overall number of patients in treatment increased by 4%. The number of patients who no-showed and canceled decreased by 60% (no-shows) and 15% (cancelled). Patients were 10% more likely to remain in treatment beyond 1-2 visits. Personnel reports that calls and handoffs were done but there were only a few documented interactions.

STUDY

What did you learn? Did you meet your measurement goal?

Goals were met but the interventions for follow-up phone calls and warm handoffs were not well-documented, bringing their value in the data analysis into question. The following barriers were identified by the team:

1. Counselors were doing follow-up calls only patients who no-show for an unknown reason, not those who had a reason
2. The form for documenting calls was inconvenient, distant from the counseling rooms
3. New counselors rotating into the FC were not being updated on the purpose and procedures
4. There was a lack of an easy way to document warm handoff encounters
5. Patient privacy issues existed with warm handoffs
6. There was a lack of consistent personnel for process
7. For consistent training of personnel, there should be a project leader on-site. When a new Clinical Director is hired, that person will take on this role.

ACT**What did you conclude from this cycle?**

The following procedures were put in place :

1. Counselors will initiate calling all patients who missed a counseling session, even if there was a documented reason on the schedule.
2. Documentation of the phone-call would move to the patient encounter note in the EHR which is easier for the counselor.
3. Updated procedures will be placed on the counselor's desk for easy reference for new counselors when transitioning into practice.
4. If both counseling rooms aren't available, warm-handoffs will take place on the second floor in a location that can guarantee privacy of patient information.

- PDSA complete/no modifications necessary/ need to standardize across the practice
 Conduct another PDSA cycle
 Will review again on:
 Other comments:

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