A Pharmacist-guided Protocol for Improved Monitoring of Patients on Antidepressants

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ABSTRACT

Background: Local guidelines recommend that patients treated for depression receive 3 follow-ups within 12 weeks of antidepressant initiation; however, this is often not achieved in practice.

Methods: A monitoring protocol was implemented as a quality improvement project at Wingra Access Medical Center in which patients treated for anxiety or depression received a follow-up phone call 1 to 2 weeks after starting an antidepressant.

Results: A retrospective chart review demonstrated the percentage of patients achieving 3 follow-ups within 12 weeks significantly increased from 7% to 24% following implementation.

Conclusion: Results suggest the protocol is a feasible method to improve antidepressant follow-up in primary care. Confounding factors including cohort dissimilarities and introduction of a behavioral health service should be considered.

BACKGROUND

Major depressive disorder (MDD) and anxiety disorders are common and disabling conditions. The lifetime prevalence of anxiety and depression in adults in the United States is 31.2% and 16.9% respectively.[1] Worldwide, unipolar depression is the leading cause of disease-related disability in both men and women. In the United States, the annual cost of depression is estimated at $83.1 billion, with a large portion related to reduced productivity and absenteeism.[2,3]

Pharmacotherapy is commonly used to treat depression and anxiety. Between 2005 to 2008, antidepressants were the third most commonly prescribed class of medications in the United States and the most common among patients aged 18 to 44 years of age.[4] Local guidelines recommend a minimum of 3 follow-ups within the first 12 weeks of antidepressant initiation, and at least 1 face-to-face visit with the prescribing clinician.[5] However, large studies have reported poor adherence to guidelines for recommended treatment of major depressive disorder in primary care.[6,7] A cohort study of 148 primary care patients with a depressive disorder reported that 16.2% received appropriate antidepressant follow-up defined as at least 1 consultation with the patient's provider within 6 weeks of starting antidepressant medication, and continuation of medication for at least 5 months or cessation of medication after 2-6 weeks if no response.[6] The Midlife Development in the United States (MIDUS) survey defined appropriate care for patients with major depression as at least 4 visits with the same prescribing provider and reported 16.9% received guideline-concordant mental health care.[7]

Approximately 33% to 50% of adult patients with depression are managed in primary care, and approximately 70% to 80% of antidepressants are prescribed by primary care clinicians.[8-10] A local chart review performed in 2008 at Wingra Access Family Medical Center, a teaching clinic of the University of Wisconsin Department of Family Medicine, found follow-up rates consistent with the previously published studies. Seventy-eight percent of patients with new episode depression were started on an antidepressant agent, but only 3% of those patients received the recommended 3 follow-up visits, and 40% had no follow-up.

Study investigators hypothesized that a telephone monitoring protocol would be a feasible method to increase compliance with first follow-up and to facilitate the scheduling of a second in-clinic visit for patients newly starting on an antidepressant medication in a primary care setting. More intensive telephone case management by nurse care managers has been reported to improve treatment adherence and depression outcomes in primary care, but the follow-up effects of a simplified monitoring protocol that could be easily adopted by a wide range of primary care clinics were unknown.[11,12]

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METHODS

This was a retrospective comparison to evaluate the telephone follow-up monitoring protocol at Wingra Access. The clinic goal was for each patient newly started on an antidepressant to have 3 follow-ups within 12 weeks of starting the medication. The project received exemption status through the University of Wisconsin-Madison Health Sciences IRB to perform a chart review to compare data for 2 cohorts of patients: those receiving an antidepressant prescription prior to implementation of the protocol (pre-cohort), and those receiving an antidepressant prescription following protocol implementation (post-cohort).

Wingra Access is a primary care clinic and training site of the University of Wisconsin Department of Family Medicine. Although Wingra is not an NCQA-certified Patient Centered Medical Home (PCMH), patient care is provided in line with this model; primary care clinicians, behavioral health consultants, pharmacists, social workers, and nurses jointly provide coordinated medical and psychiatric care. The patient population is ethnically and socioeconomically diverse with 46% white, 20% Hispanic, and 20% African American, and the majority English or Spanish speakers.

Protocol

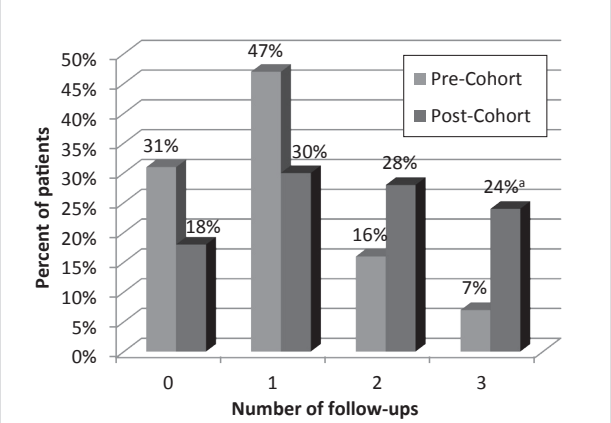
The telephone follow-up monitoring protocol was implemented on April 19, 2009. The protocol dictated calling all patients within 1 to 2 weeks of newly starting on an antidepressant for depression and/or anxiety. The Department of Family Medicine Clinical Data Warehouse (a central server that houses, manages, and reports data entered into the electronic medical record) used eligibility criteria to generate a weekly report of potentially eligible patients. These criteria included (1) electronic antidepressant prescription from a prescriber at Wingra Access within the previous week (2) no previous antidepressant prescription within the past 24 months and (3) aged 18 years or older. The patient list was sent from the Data Warehouse to team members at the beginning of each week. The clinic pharmacist or pharmacy student performed a review of each patient's electronic medical record (EMR) to verify eligibility criteria and screen for the following exclusion criteria: (1) patient received the antidepressant to treat a condition other than depression and/or anxiety (2) patient received an antidepressant prescription from a prescriber outside of Wingra Access in the past 24 months or (3) patient unable to speak either English or Spanish. A final list of eligible patients was sent to the designated clinic nurse who conducted follow-up calls within 2 weeks of antidepressant prescription. A follow-up interview template was developed and used to standardize calls and to ensure antidepressant efficacy, safety, and adherence. Whether or not a future follow-up visit had already been scheduled was also determined, and scheduling of this visit was facilitated if needed. If a patient could not be reached, a message was left asking the patient to call the clinic. If voice mail or an answering machine was not available, the nurse would attempt to contact the patient up to 3 times. Completed and attempted telephone encounters were documented in the EMR using the standardized template and routed to the patient's prescriber.

Table 1. Average Characteristics of Patients in Pre- and Post-Cohorts.

	Pre-Cohort (n=45)	Post-Cohorts (n=50)
Average Age (years)	38	39
Gender (%)		
Female	76	72
Male	24	28
Number of Medical Conditions	2.5	3.2
Number of Prescription Psychotropic Medications	1.3	1.4
Psychiatric Diagnoses (%)		
Depression[a]	94	76
Anxiety disorder	33	48
Insomnia	11	16
Attention Deficit Hyperactivity Disorder	7	4
Alcohol and other drug abuse (AODA)	7	18
Bipolar disorder	7	4
Psychotic disorder	4	2

[a]*P*-value = 0.02 for pre- to post-comparison of depression diagnosis. All other comparisons were non-significant.

Figure 1. Percentage of Patients Completing 0-3 Follow-ups Within 12 Weeks of Antidepressant Prescription.



[a] *P*-value <0.05 for pre- to post-comparison

Evaluation

Following a 6-month protocol trial period, the pre- and post-cohorts were formulated. The Clinical Data Warehouse used the eligibility criteria from the clinic protocol to identify potentially eligible charts for both cohorts. Charts identified for the pre-cohort were those meeting eligibility criteria within 1 year prior to the date of protocol implementation, and charts identified for the post-cohort were those meeting eligibility criteria 6 months after the start date of the protocol. Each chart on the pre-cohort

Figure 2. Method of First Follow-up for Patients in the Pre- and Post-Cohorts.

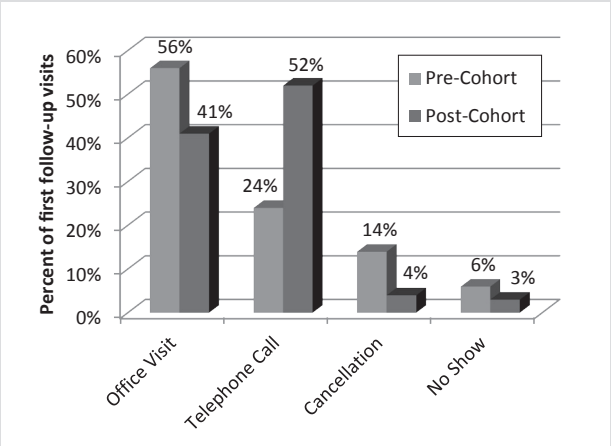


Table 2. Type of Health Care Professional Conducting the First Follow-up Visit.

	Pre-Cohort	Post-Cohort
Primary Care Provider	55%	43%
Physician Team Member	39%	5%
Behavioral Health Consultant	3%	28%
Nurse	3%	9%
Pharmacist	0%	11%
Social Worker	0%	4%

list was assigned a random number, and charts were sorted into an ascending list based upon assigned number. The study team hand-screened each chart in sequential order to confirm eligibility criteria as stated in the protocol, and omitted charts meeting exclusion criteria. Exclusion criteria included those stated in the protocol, in addition to patients who had not been on the prescribed antidepressant for a minimum of 12 weeks. This process was continued until 50 eligible charts were identified. The same randomization process was conducted with the post-cohort. A sample size calculation was not performed, but a target of 50 charts in each cohort was deemed a feasible sample size for purposes of evaluating the pilot protocol.

The primary outcome measure of the chart reviews was the percentage of patients who achieved 3 follow-ups within 12 weeks of antidepressant prescription. Additional outcomes included the total number of scheduled visits that were completed; the percentage of patients completing 0, 1, or 2 follow-up visits within 12 weeks following antidepressant prescription; the type of provider responsible for follow-up (primary care clinician, behavioral health consultant, pharmacist, nurse or social worker); and the mode of follow-up (telephone call or office visit).

Data for the pre- and post-cohorts were compared using 2 sample *t* test and chi-square test. To assess protocol feasibility the pharmacist and nurse responsible for performing telephone follow-ups recorded time commitment and call outcome for a period of 2 weeks.

RESULTS

A total of 45 charts in the pre-cohort and 50 charts in the post-cohort were included in the final analysis. Data was not available for 5 of the charts in the pre-cohort due to incomplete documentation, so these charts were excluded from the analysis. Chart demographics and clinical characteristics are compared in Table 1. There were no statistically significant differences in age, gender divide, and number of medical conditions and psychotropic medications between cohorts. In the pre-cohort, more patients had a diagnosis of depression and fewer had a diagnosis of anxiety compared to the post-cohort, although the difference was only significant for depression.

The average number of follow-ups completed was significantly greater in post-cohort, compared to the pre-cohort (1.6 vs 1.0, $P = 0.003$). The percentage of patients who completed 0, 1, 2 or 3 follow-ups within 12 weeks following antidepressant prescription is summarized in Figure 1. A greater percentage of patients completed 2 or 3 follow-ups in the post protocol cohort, but the difference was only statistically significant for 3 follow-ups ($P = 0.024$).

The method by which the first follow-up occurred is described in Figure 2. The percent of first follow-ups occurring via telephone call was increased, and the percent of patient cancellations and no show visits were decreased in the post-cohort. A primary care clinician or physician team member was responsible for conducting the first follow-up in the majority of the patients in the pre-cohort (94%). This number decreased to 48% in the post cohort, and instead 52% of follow-up occurred with behavioral health, nursing, pharmacy, or social work (Table 2). For the second and third follow-ups the primary care clinician or physician team member was responsible for more than 70% of visits before and after implementation of the protocol.

The clinical pharmacist devoted approximately 20 to 30 minutes per week performing chart reviews to verify patient eligibility. Over a single 2-week period, the clinic nurse attempted to contact 13 unique patients for follow-up. Out of this group, calls were completed for 7 patients. Overall the nurse made 27 total calls, and on average it took 3 attempts per patient to compete telephone follow-up (range 1-4 calls). The average length of a call was 4.3 minutes, and this could be further broken down into 11 minutes for a completed call and 1.8 minutes for an incomplete call.

DISCUSSION

Results suggest a multidisciplinary telephone follow-up protocol is a feasible method for improving antidepressant follow-up

in a high risk primary care setting. These findings are consistent with previously published results of improved treatment adherence with nurse-conducted telephone care management programs.[11,12] However, those programs provided more intensive, and presumably more costly, care management than that described in this communication. Thus, the present results illustrate a way in which clinics without the resources to adopt an intensive care management program can implement simplified option for improving follow-up rates.

Several aspects consistent with the PCMH model likely contributed to the success of the protocol. First, it used a team-based approach to optimize patient care through collaboration of pharmacists, nurses, behavioral health consultants, and primary care clinicians. Further, the involvement of the Data Warehouse provided an efficient method of creating a registry of patients for the monitoring service, and follows the PCMH emphasis of health information technology to improve patient care.[13] Clinic time devoted by the clinical pharmacist and clinic nurse was manageable and was able to be performed in conjunction with other expected clinical responsibilities.

Despite encouraging results, limitations to the protocol were identified and represent areas for further advancement. While the percentage of patients achieving 3 follow-ups more than tripled (7% to 24%), still less than one-third of patients achieved the guideline-recommended follow-ups. Based on the current design of contacting patients 1 to 2 weeks after an antidepressant is prescribed, it is speculated that the protocol is most effective in ensuring a first follow-up visit and facilitating a second in-clinic visit. This is supported by 52% of first follow-ups occurring via telephone. To target improvement in additional follow-ups, the protocol should be extended to include phone calls at 1 to 2 months and at 3 months. This would require a system for alerting team members when calls are due. This would be feasible using reminder tools in the EMR, but could significantly increase the workload necessary to run the protocol due to the expanded call volume.

Limitations in the study design may have introduced confounding factors. First, 2 separate cohorts of patients were selected using the eligibility and exclusion criteria in the protocol. While this method was used to identify a sample reflective of those who would have qualified for follow-up calls in the protocol, it is difficult to ensure the 2 groups were comparable. The cohorts were similar in age, gender distribution, number of medical conditions, and number of psychotropic medications. While the majority in both cohorts had a diagnosis of depression, this percentage was smaller in the post-cohort, indicating more were receiving antidepressants for anxiety alone compared to the pre-cohort. It is possible that differences in outcome measures were partially due to measured and unmeasured dissimilarities between cohorts.

Second, the two cohorts initiated antidepressant treatment at separate points in time. Between the times when the post- and pre-cohorts received treatment, a behavioral health service was incorporated into patient care. In this model, behavioral health consultants are available to facilitate patient psychiatric care in clinic Monday through Friday. Previously a single psychologist was available in clinic several half-days per week. The intensification of behavioral health care presents a confounding factor which may have independently resulted in a positive impact on depression follow-up rates in the post-cohort.

Finally, interpretation of study results is limited by the lack of measurement of depression and anxiety outcomes. Due to the retrospective chart review design, data measuring depression and anxiety severity and antidepressant treatment response were not available for comparison between cohorts. It is unknown whether improved follow-up rates translate into improved treatment outcomes for patients. This should be the focus of future studies evaluating depression telephone monitoring programs in primary care.

CONCLUSION

A multidisciplinary telephone follow-up protocol is a feasible method for improving antidepressant follow-up in a high risk primary care setting. However, compliance rates with guideline-recommended monitoring remain low, and the impact on depression treatment outcomes is unknown. Extension of the monitoring protocol to include follow-up calls at multiple time points throughout the first 3 months of antidepressant treatment and the assessment of depression treatment outcomes should be considered for further study.

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