PSYCHIATRIC MEDICATION PEER REVIEW PROJECT:

FINAL REPORT

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Executive Summary

The Washington State Health Care Authority (HCA) contracted with the University of Washington Department of Psychiatry and Behavioral Sciences to conduct an antipsychotic medication-prescriber peer review project. The project was divided into two approximately equal phases with adjustments made according to the feedback of the participants. Sixty-two participants completed initial consultations after receiving a report of antipsychotic medication prescription quality indicators. These indicators included: concurrent use of 2 or more antipsychotics, high antipsychotic dosage, use of 5 or more psychotropic medications, and antipsychotic medication adherence measures. The majority of participants appeared to welcome, enjoy, and benefit from the consultation process. In addition to the pre-determined quality flags, the under-use of clozapine and long-acting depot medication was also a frequent focus of discussion. Thirty-eight follow-up consultations were completed within about six months after the initial consultation.

Summary of Recommendations:

1. We recommend a workgroup process to devise a method for providing ongoing, easy-access, real-time psychopharmacologic consultation for community prescribers.
2. We recommend ongoing availability of Antipsychotic Medication Report (AMR) and revising the format to be more intuitive and understandable.
3. We recommend a system-wide quality improvement (QI) process for reviewing the use of clozapine and long-acting depot medications.

Introduction

As part of the multi-state MedNET collaborative, the Washington State Health Care Authority (HCA) contracted with the University of Washington Department of Psychiatry and Behavioral Sciences (UW) to conduct an antipsychotic medication-prescriber peer review project. This project's intent was to complete a quality improvement initiative focusing on five quality indicator "flags" as identified in Figure 1. Participants in this project were identified by the HCA, who used an algorithm to identify specific prescribers. Though we do not have the exact algorithm for that selection, we noted that each identified participant had at least several patients that triggered one or more of the quality indicator flags. Each prescriber was initially contacted by the HCA and was provided with an Antipsychotic Medication Report (AMR) spanning one or more 6-month review periods (see Attachment A). This was followed by a clinical consultation with one of the University of Washington psychiatrists. We completed 62 consultations from a group of 96 prescribers identified by the HCA. Thirty-eight of these prescribers also completed follow-up consultations within about six months of the initial call. The overall goal of this project was to improve adherence and prescriptive practices through safe and effective use of antipsychotic (AP) and other psychiatric medications. It was proposed that progress toward these goals would be achieved via informing participants of their prescription patterns (via the reports provided), by identifying opportunities for system improvement during the interviews, and via clinical consultation provided by the UW psychiatrists.

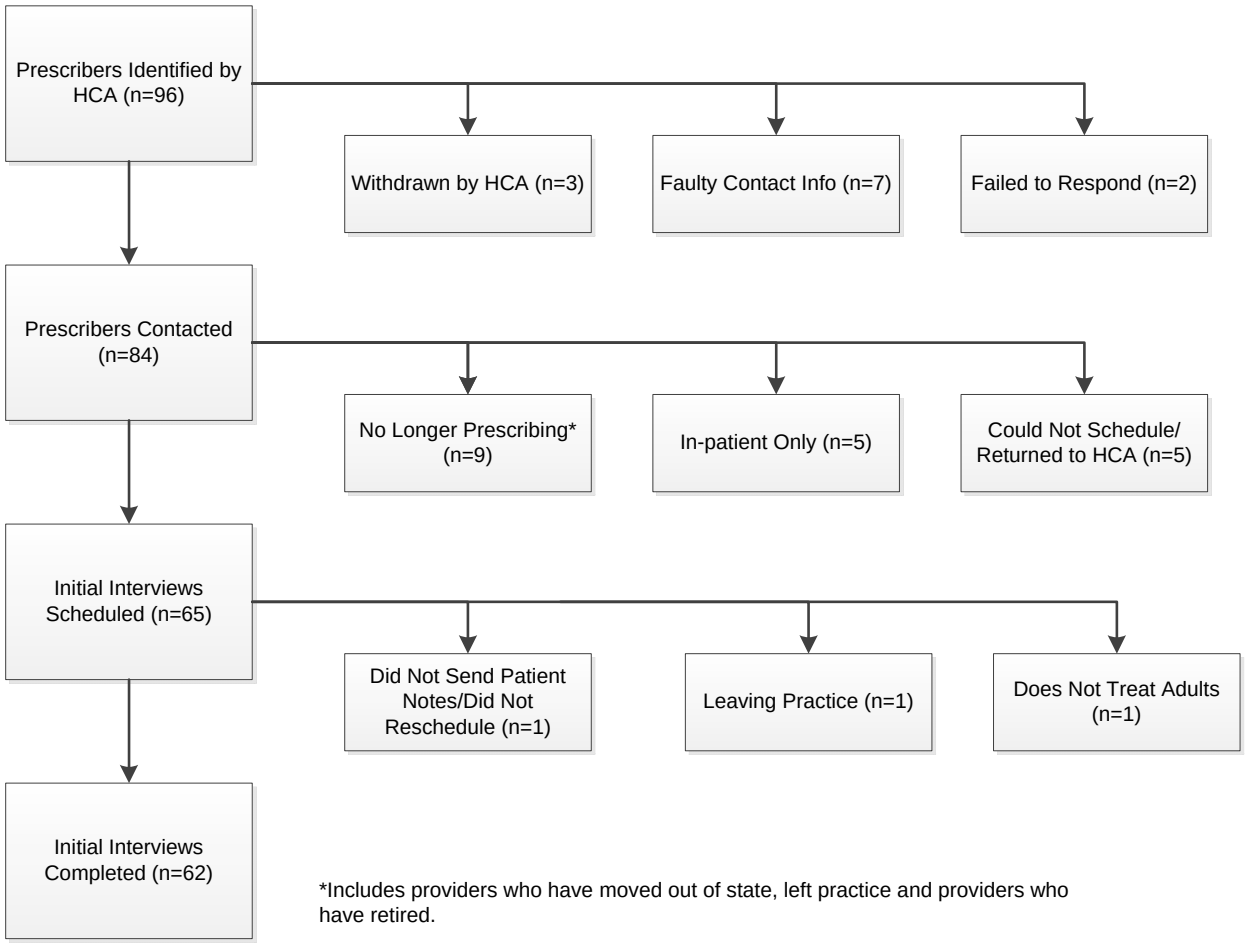
Figure 1: Quality Indicator "Flags"

Indicator	Metric
Medication Gap	> 7 days (per 6 month review period)
Medication Possession Ratio (MPR)	< 90% (per 6 month review period)
Psychotropic Medication Dosage	> FDA Maximum
Antipsychotic (AP) Polypharmacy	> 2 Concomitant antipsychotics
Psychotropic Polypharmacy	> 5 Concomitant medications

Interventions and Techniques Utilized

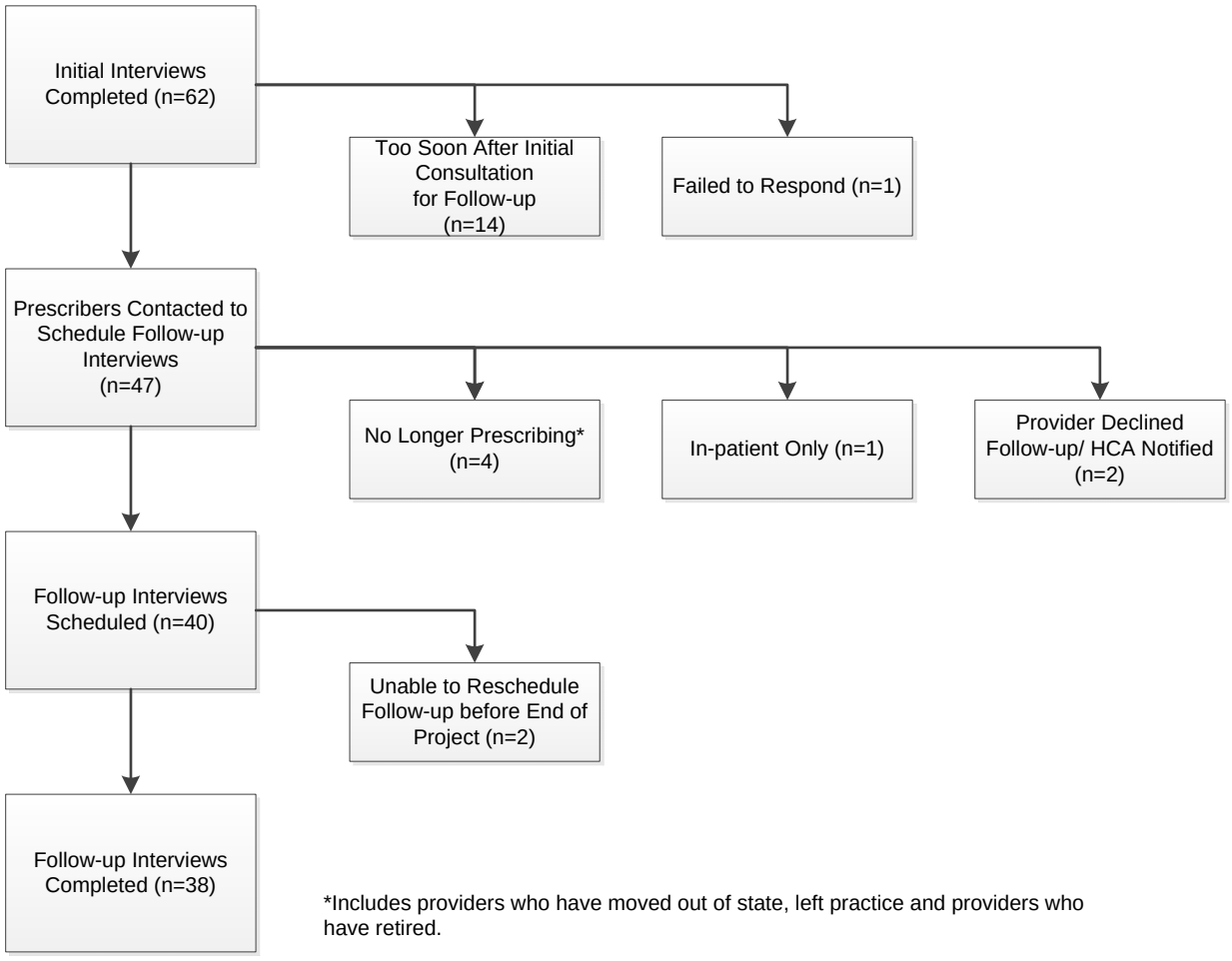
Contacting Prescribers and Scheduling Interviews: Our efforts to contact prescribers and schedule interviews are detailed in Figures 2a and 2b. For the various reasons illustrated in Figures 2a and 2b, we required 96 prescriber candidates in order to complete 62 initial interviews (completion rate of 62/96 = 64%), and 47 providers were required to complete 38 follow-up interviews (completion rate of 38/47 = 81%). Contacting prescribers for the purpose of scheduling interviews turned out to be a surprisingly labor-intensive effort. All contact information was confirmed before sending initial letters to prescribers. In order to find the current contact information of the vast majority of providers, internet research was required followed by phone calls to the clinics to confirm that contact information. Providers were not typically available by phone during most of the day, and the majority of the providers did not return calls until a UW staff members left several voicemails about scheduling.

Figure 2a: Prescriber Contact and Scheduling for Initial Interviews



*Includes providers who have moved out of state, left practice and providers who have retired.

Figure 2b: Prescriber Contact and Scheduling for Follow-up Interviews



Selecting Patient Cases for Review: Four patients were selected for each prescriber as potential cases for review. These patients were selected by one of the consulting UW psychiatrists (Dr. Ryan Kimmel, MD) based on the quality indicator flags triggered on their AMR for each patient. The criteria for selecting the patients were 1) the number of quality indicators flagged on that particular patient, 2) diversity of flags chosen for discussion, and 3) flags representative of the prescriber's pattern. Each prescriber was mailed a letter from the HCA announcing the project, and requesting copies of records for 3 of the 4 patients identified within the letter.

Preparing for the Initial Interviews: The UW team developed 10 standard questions to review for each prescriber (Table 1). Five additional questions were added to initial interviews in Phase 2 for a total of 15 questions. We created an online survey tool for collecting information during the interviews. Prior to each interview, the consultants reviewed the AMR and the patient records that were submitted. Any discrepancies were noted in the data collection tool for further discussion.

Table 1: Standardized Initial Interview Questions
Introductory Questions:
• Please describe your overall practice type/location (general adult?) • What do you make of the summary data in the report from HCA?
Patient Review Questions
• Please give us a brief description of this patient's care. • What do you make of the flags for this patient?* • What is the most challenging aspect of providing psychiatric medication treatment to this patient? • What HAS worked well in providing care to this patient? • Would the individual data that can be found on the last page of the PRISM report be useful in the care of this patient?* • What psychopharmacologic issues or questions come to mind with regard to this client? • How can the Health Care Authority help in improving outcomes, safety, and adherence with psychiatric medications?
Wrap up and Summary Questions
• If you had more time for research – what psychopharmacologic question(s) comes to mind? • The Health Care Authority in Olympia is thinking about system-level ways to improve psychiatric patient care – to improve outcomes, safety, and adherence with psychiatric medications. Do you have any ideas that might help to improve care from this level? • Suggested modifications in diagnosis / prescribing patters, if applicable.* • Barriers to implementation of changes in prescribing patterns, if applicable.* • Potential facilitators to implementation of changes in prescribing patterns, if applicable.* • Conclusion: How was this consultation experience for you? Do you think it was beneficial?

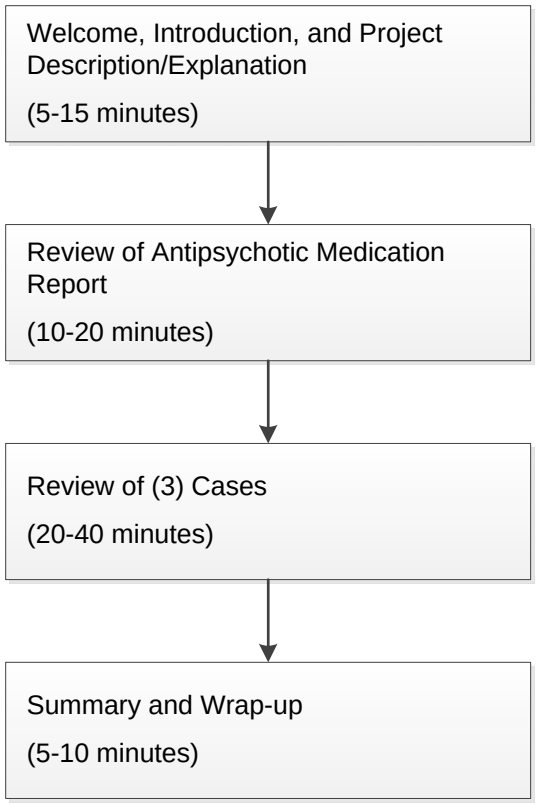
*Questions added for Phase 2 initial interviews

Conducting the Initial Interviews: UW completed 62 prescriber interviews during both phases of the project. Each prescriber was scheduled for a one-hour peer-review consultation with one of two psychiatric consultants (Dr. Ryan Kimmel, MD and Dr. Marc Avery, MD – both are faculty at the University of Washington, board-certified in psychiatry, and possess extensive knowledge and experience in the use of antipsychotic medication and the treatment of persons with serious and persistent mental illness. See biosketches in Attachment B). The interviews were generally one-hour long. We chose this length of time as we felt this was the longest amount of time appropriate for the prescribers' busy schedules. However, this design also required us to focus on just a few clinical issues during the interview. It is important to note that these rather brief interviews comprised neither a systematic evaluation of a prescriber's practice, nor a comprehensive review of any single patient.

All interviews began by welcoming and thanking the prescriber for his/her participation in the project, followed by an explanation of the rationale and goals of the project itself. This explanation took up to 15 minutes, as the activity was new to most prescribers. Following the introduction, the interviewers moved on to review of the AMR, with special attention to interpretation of the data within the report. As this was often the first time that prescribers had seen information summarized in this way, this often took considerable time (10 – 20 minutes). The interview then progressed to reviewing up to three patients for each prescriber and concluded with a summary of the interview. The consultants had considerable latitude in how

much time to spend with each element of the interview – with the emphasis placed on opportunities for "teaching moments" during the entire interview process.

Figure 3: Initial Interview Processes



Initial Interview Follow-Up: Following the interview, the consultant emailed the prescriber to thank them for their participation and to forward any additional teaching materials that were discussed during the interviews. This often included research reference materials or summary information that we had earlier compiled for the purpose of the project.

Conducting the Follow-up Interviews: Thirty-eight follow-up consultations were completed within about six months after the initial consultations. The length of time between the initial and follow-up consultation varied from as long as ten months to as little as one and one-half months. Because of an interruption in the data flow, the follow-up interviews focused more on reinforcing the educational themes and feedback provided in the initial interview, rather than going through AMR data as was originally planned. The follow-up interviews allowed for open-ended discussion on newly published data on polypharmacy, successes and failures in getting individual patients off polypharmacy, and feedback for the HCA on how to make PRISM data more useful to clinicians. The follow-up interviews gave the opportunity to review the prescriber's experience with addressing polypharmacy concerns in their patients following the initial consultation. Of these cases discussed, many prescribers reported good clinical outcomes, or at least no clinical relapse, from this intervention (though this was not true in all cases). Many reported a sense of optimism that the dosage reductions will eventually reduce the overall risk burden for their patients.

Summary of Findings

Prescriber Sampling and Dropout: This report summarizes findings from initial interviews with 62 prescribers from a pool of candidates chosen by HCA. It is important to point out that this group was chosen because of their outlier status within the pool of prescribers – and thus the results of this study cannot be generalized to the entire pool of prescribers engaged in antipsychotic prescribing practices statewide. Furthermore, since we do not have the precise algorithm for selection utilized by HCA – it is difficult for us to generalize patterns across the group. Finally, there was a certain amount of drop-out during the scheduling process (see Figure 2) resulting in a 64% completion rate, this likely results in a certain amount of selection bias in the results that we observed.

Follow-up Interviews: Most providers felt like the project was educational and caused them to be more aware of antipsychotic polypharmacy within their own cohort of patients. Most providers made an attempt to address this issue in at least one patient during the 7 months between our initial contact and the follow-up interview.

Prescriber Practice Type: The majority of participants in this project identified themselves as providers from a community mental health center, with some variation. One participant only provided inpatient services. Another was a primary care provider (who did a large amount of mental-health prescribing). Finally, several prescribers noted that their practice had one or more specialty focus types: such as dangerously mentally ill programs or residential programs.

Trends observed, Lessons Learned, Barriers and Successes

General Observations: We must begin our discussion of results by commenting that we were quite impressed by the commitment and dedication we observed in the prescribers on behalf of serving a very ill and difficult-to-serve patient population. Community mental health care is a challenging occupation, which was underscored by our observations. We were also quite impressed by the level of sophistication of psychopharmacologic knowledge possessed by many prescribers; however, they differed greatly in this extent. Prescribers also differed in treatment philosophies which sometimes colored their medication recommendations.

False Positive and Negative Errors: A primary focus of this study was on the patients identified that triggered one or more of the quality indicator flags. We observed the effect of false inclusion ("false positive") and false exclusion ("false negative") data. Though these effects were mostly minor, we found that it was important to validate these possible sources of errors with the prescribers for the purpose of transparency and accurate use of the reports. A list of false positive and negative errors observed is included in Table 2a.

A particularly important error came from the process of attributing patients to a prescriber's caseload; that is the algorithm that HCA used to identify prescribers is unable to determine whether a patient belongs to one prescriber's regular caseload or another's. Clients are seen by non-assigned prescribers (for a variety of reasons) resulting in database assignment errors in both directions.

Table 2a: Observed Sources of False Positive and Negative Errors in the Antipsychotic Medication Report

Source of Error	False Positive	False Negative
Attributing a particular patient to a caseload	Vacation and call coverage, transferred cases, etc.	(same)
Medication **Gap**, MPR	Starting and stopping medications with clinical approval, use of samples, incarceration, hospitalization, use of stored medication cache.	Medications picked up by third parties. Cheeking, hiding, or inappropriately discarding medications.
AP dose greater than FDA		
Use of 2 or more AP	Switching between medications.	
Use of 5 or more psychiatric medications	Switching between medications.	
Generic Utilization		Use of samples.

MPR = medication possession ratio; AP = antipsychotic

Quality Indicator Flags

Table 2b lists the most frequent clinical indicators discussed during initial interviews. These indicators were only flagged if they were a focus of the discussions. The polypharmacy and adherence flags were the most frequently discussed, which is not a surprise since this was the focus of this project. Under-use of clozapine and lack of metabolic lab monitoring with antipsychotic (AP) use was also frequently observed.

Table 2b: Observed Clinical Indicators During Interviews

#	Clinical Concern
71	>=2 AP
60	>=5 psychotropics
30	MPR < 90%
22	AP dose too high
14	Current Gap > 7 days
14	Underuse of clozapine
9	Poor medication compliance with provider knowledge
9	Poor medication compliance without provider knowledge
6	AP without annual FBS
6	AP without annual Lipids
4	Long-term benzodiazepines and escalating use
4	>= 2 benzodiazepines
4	AD dose too high
3	>= 2 Similar AD
3	> 2 mood stabilizers
3	AP dose too low
3	AP without appropriate indication
3	Mood stabilizer dose too low
3	Stimulant + benzodiazepines

AP = antipsychotic; MPR = medication possession ratio; AD = antidepressant

Adherence Flags (Gap and MPR): The HCA has noted that a Medication Possession Ratio of <90% is associated with higher risk of hospitalization, either medical or psychiatric, in the following six months. This begs the question of whether some hospitalizations might be avoided through better attention to adherence indicators. We encountered several cases in which poor adherence appeared to be associated with an apparent lack of efficacy (we know from the literature that lack of perceived efficacy is often an important factor in reduced adherence). In some instances the provider appeared to prescribe additional medication with a goal of improving efficacy but improvement with this additional medication was not ascertained (often it was not possible to do so). The net result, however, may have only been more complicated regimens, more side effects, and even worse medication adherence.

Prescribers are often aware of the poor adherence of their patients. Many prescribers were able to identify patient factors that led to reduced adherence. Some of those factors are listed in Table 3.

Table 3: Observed Factors Leading to Poor Adherence
• Poor insight into the diagnosis • Poor recognition of the impact of their symptoms on functioning • Over-estimation of the impact of potential side effects of the medication • Complex medication regimens • Substance abuse • Complex social issues leading to unstable lifestyle • Poor follow-up with appointments

We noted that often, when assessing adherence, the prescriber had to depend solely on patient self-report and was unaware of poor patient medication adherence. In these cases, the data from the Antipsychotic Medication Report was viewed as immediately clinically applicable. To address these issues, we also heard a number of strategies that providers employed. These are summarized in Table 4.

Table 4: Factors Utilized by Prescribers to Improve Adherence
• Active conversations about adherence during medication appointments • More aggressively addressing substance abuse issues • Engaging patients' families • Moving patients into more structured living situations • Use of long-acting depot medications • Daily medications administration • Medication alerts for late medication pick-ups • Use of peer services to support adherence • Engaging other team members in addressing adherence, including case management and pharmacy

Though many of these strategies appeared to be quite effective, their use was variable across programs. We felt that many of these strategies could be employed more systematically across all providers. We also noticed that providers varied considerably in their awareness of the importance of treatment adherence strategies, as well as in their awareness of motivational interviewing skills or medication shared decision making strategies. Some providers lack access to clinical support resources that could help improve adherence. Finally, some providers had apparent barriers to using certain medications that might improve adherence because they required blood draws or injections that were not available at their treatment setting.

Antipsychotic Dosing Flag (>FDA max): In our interviews, we considered whether attention was given to the potential benefit of using antipsychotics above FDA max versus the risk of harm to the patient in the form of side effects. We also were interested in hearing if clinicians observed any benefits following the dose increase. In some, there was good documentation that the current dose worked better than the FDA max dose and the decision seemed rational. In other cases, >FDA max dosing did not appear to correlate to medication response. In some cases >FDA max dosing was co-present with antipsychotic polypharmacy. In some cases it appeared that >FDA max dosing was also employed to target symptoms or diagnoses for which the antipsychotic had little likelihood of treating. These types of cases often represented an educational deficit about the mechanisms of the medications and the potential risks of >FDA max dosing, an educational deficit in the treatment of refractory psychotic or mood disorders, or

an educational deficit about the treatment of cognitive disorders (dementia, developmental delay, adult autism spectrum).

Antipsychotic Polypharmacy Flag (>2 AP): As there is little scientific literature that supports the simultaneous use of multiple antipsychotic medications, we were concerned that this practice would not have an overall favorable risk/benefit ratio, most likely by increasing exposure to side effects. This flag proved to be the most common opportunity for on-the-spot education during provider interviews.

A frequent reason given for use of two or more antipsychotic medication was to address sleep problems, as quetiapine is commonly used as a sleeping agent. This medication does not have an FDA indication for insomnia and the risk of side effects would argue that this medication is not a good choice for off-label use for this purpose. On the other hand, there are few medications available for sedation that have a low risk for dependence, and this medication was sometimes appropriately used for this purpose after failed attempts with other sedatives (such as trazodone or hydroxyzine). In other cases, sub-therapeutic quetiapine (e.g., 50 mg) was used as a hypnotic in bipolar disorder, depression, and schizophrenia with the thought that it might augment via a mechanism more than just improve sleep.

As was the case with >FDA max dosing, antipsychotic polypharmacy was sometimes unsuccessfully employed for symptoms and diagnoses for which monotherapy would have a low likelihood of efficacy. Agitation from cognitive disorders, for example, was sometimes labeled "Psychosis NOS" in order justify antipsychotic polypharmacy. This represents an educational deficit in the management, both pharmacologic and non-pharmacologic, of behavioral issues associated with certain cognitive disorders.

Psychotropic Medication Polypharmacy Flag (>5 psychotropics): Complicated psychotropic medication regimens may reduce value by exposing patients to cumulative side effects, increasing the rate of drug interactions (both known and unknown), and impair adherence via confusing and complicated daily dosing regimens.

In our review of cases for this project, it was noted that psychotropic polypharmacy regimens were often patient-driven. That is, patients requested medications to treat a variety of symptoms, without a good understanding of the underlying diagnoses. For example, a bipolar patient in a mixed state may have a mixture of depressive symptoms (which might generate a prescription for an antidepressant), manic symptoms (generating a prescription for a mood stabilizer), problems with sleep (generating a prescription for a sedative hypnotic), hyperactive and impulsive behavior (interpreted as ADHD and generating a prescription for a stimulant), or excessive daytime sedation from other medications (generating a prescription for a medication like modafinil). Such pharmacological management is driven by symptoms rather than a good understanding of the underlying disorder. Patient requests and provider inexperience can contribute to such "symptom-driven prescribing." In some cases, symptoms seemed to be best characterized as sequelae of psychological or social factors. Prescribers often have few resources to impact such psychological or social issues and may try additional medications to help address the patient's concerns or distress.

Psychotropic polypharmacy often appeared to be a result of complicated patient profiles – multiple diagnoses, treatment resistance, and numerous life stressors and trauma. The use of multiple medications was sometimes, appropriately, the result of multiple Axis I diagnoses.

On the other hand, there were also cases of psychotropics added to treat the side effects of other psychotropics. Though antipsychotics have some demonstrated efficacy for certain etiologies of agitation, the agitated patients in our review rarely had a medication removed, even as the agitation persisted and other classes of medications were added. At some point, one has to wonder about the cognitive impact of psychotropic polypharmacy in vulnerable patients who already demonstrate cognitive deficits.

Percent Generic Utilization of Antipsychotic Medication: Compared with the existing, generic, antipsychotic spectrum, most of the recently-released antipsychotics are not a dramatic leap forward in efficacy, mechanism of action, or side effect profile. The value of expensive medications is reduced if there is not a commensurate jump in efficacy. The Psychiatric Medication Peer Review Project came at an unusual time for this topic. In 2012, generic versions of ziprasidone, olanzapine, and quetiapine became available. When added to generic risperidone and typical antipsychotics, there is now a much wider armamentarium of relatively affordable antipsychotic medications. Thus, providers may not have to switch medications in order for their Percent Generic Utilization to go up. We did observe the occasional use of on-patent delayed-release formulations of medication (for instance one provider's uniform use of Seroquel XR over generic quetiapine).

We also observed an issue related to the use of samples. Many patients who present to community providers need an immediate psychpharmacologic intervention and are Medicaid-eligible, but do not yet have Medicaid formally established. Community providers often rely on brand-name medication samples for those patients without (or who temporarily lose) health care insurance. On one hand, these non-generic meds may keep the patient alive, out of jail, and out of the psychiatric hospital. On the other hand, when a patient has been stabilized for a month on a specific medication there is some pressure to continue that medication, no matter what the expense, in order to maintain patient health. Moreover, the prescriber sees the patient get better on an expensive medication, perhaps luckily without side effects, and uses this "N of one" to preferentially try the expensive medication, rather than a generic, in the next patient that is doing poorly. This is a system deficit, wherein it is easier to get free samples of expensive medication than free samples of a generic medication.

Discussion

Though some of the participating prescribers in this project were less than enthusiastic, the majority seemed happy with the opportunity and voiced a desire for more of this type of consultation. Despite some anxiety about the possible criticism, many providers were quite receptive to information and accepted the discussions in a collegial and open-minded manner. During the follow-up phone calls, it was evident that the friendly relationship between the UW psychiatrists and the community providers had been maintained.

We received a fair number of positive comments about the AMR itself. Many commented that this was the first time they had ever seen such a report and would like to see this data more regularly. They especially liked the list of patients with flagged regimens. Ongoing availability of AMR reports to providers, including longer-term data to track trends and more real-time data, would allow prescribers to track their progress in achieving benchmark goals.

We heard some practice solutions that appeared to add clinical value and were especially impressed by those programs that adjusted staffing and workflow with specific attention to improving medication adherence. These examples were outlined in Table 4, above.

We also noted two medication options that seemed consistently under-utilized by prescribers: 1) use of clozapine, and 2) use of depot medications. Though clozapine is the only documented intervention to demonstrate significant efficacy and reduced mortality in refractory schizophrenia, many providers have limited access or experience with use of this medication. Depot medication can be effective for some patients with poor medication compliance and without other structural resources to ensure daily dosing. Many providers have limited access or experience with use of these medications. Prescribers often cited infrastructure limitations in providing these medication options to patients.

In conducting the Psychiatric Medication Peer Review Project, it became evident that HCA does not have up-to-date contact information for many of the providers whom it pays for services. For example, we needed 96 provider names to find 62 providers eligible for the project. This lack of contact information impedes the ability of the HCA to contact providers, advertise new programs, provide educational materials, mail Antipsychotic Medication Reports, etc.

We noted that the genesis of polypharmacy often occurs with inpatient care such that outpatient providers "inherit" a patient with complex medication regimens that were started in the hospital.

Recommendations

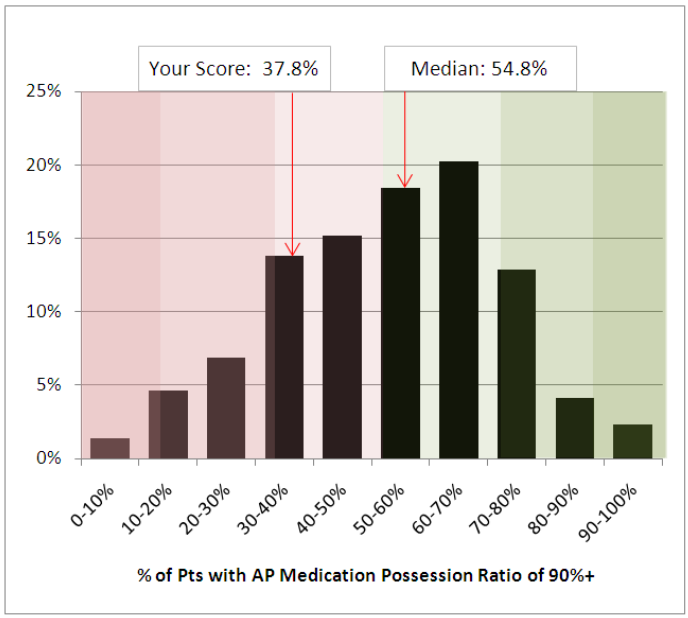
1. We recommend establishing a workgroup to devise a voluntary peer-review system for refractory patients and psychopharmacology questions. We would recommend that providers have access to peer discussions and/or second opinions in a collegial and non-punitive format. This workgroup could also consider methods for encouraging provider participation – a fair number of providers noted they would be interested in this if it were easy to access. This process should include education elements in order to reduce the dependence on industry-sponsored education in the community. Perhaps, this program could be modeled after the successful Partnership Access Line (PAL), which provides consultation focusing on children's psychopharmacology. This system should leverage technology using social networking or chat programs for the sake of efficiency. For instance, we heard from one participant of a secure private on-line "chat room" method for providing real-time, live clinical consultation to prescribers without having to interrupt busy schedules and workflows.

2. It is unlikely that the one-time consultation, as afforded by this project will achieve significant behavioral change. Thus, ongoing feedback for prescribers would likely be more effective. We recommend these reports be made available to providers in an ongoing way. Given their busy schedules, reports should be "pushed at" practitioners as opposed to requiring a separate effort to download them. We also felt that the reports are difficult to interpret (despite much effort already to format them clearly). A typical prescriber receives many communications each day – so this report should be as simple and intuitive as possible. The AMR could be re-worked in an effort to make it more

immediately understandable and not require a personal consultation for interpretation. We have included an example of how data might be presented (see Figure 4).

3. Finally, we suggest a separate QI initiative to track the (likely very low) rate of clozapine use. Explore variation in clozapine prescribing around the State and learn from successful prescribers of clozapine. Consider a provider education program focused on the successful use of clozapine. We are aware that the New York Health Care Authority has done considerable work in addressing this issue – and collaboration with that department may be useful for our own state's needs.

Figure 4: Proposed Antipsychotic Medical Report Bell Curve



Light Shading: Within 1 SD of the Mean
Medium Shading: > 1 SD from the Mean
Dark Shading: >2 SD from the Mean

Suggested Target: (TBA based on SD data to be calculated)

Antipsychotic Medication Report

Report for 6-month period ending: June 30, 2012

[redacted]
Credentials: ARNP

CLINIC [redacted]

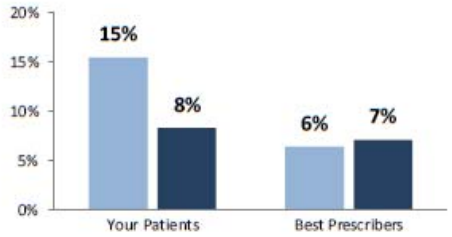
Prescriber and Patient Summary

Your Prescribing	Dec-11 Prior Period	Jun-12 Current Period	12/11-6/12 Change
Patients receiving antipsychotic (AP) meds attributed to you	336	325	-11
Antipsychotics filled in period prescribed by you for these patients	2,392	2,402	10
Total cost of antipsychotics prescribed by you for these patients	$1,162,125	$937,438	-$224,687

Patient Risk Profile	Your Patients Prior Period	Your Patients Current Period	All Patients Current Period
Percent of patients attributed to you with substance use disorder flag in admin data	13%	14%	25%
Percent of patients attributed to you with housing instability flag in admin data	7%	5%	12%

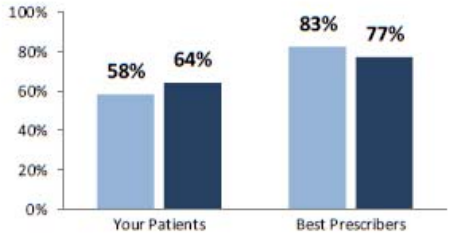
Percent of patients with current AP medication gap greater than 7 days

	Dec-11	Jun-12	Change 12/11-6/12
Your Patients	15%	8%	-7%
Best Prescribers	6%	7%	1%



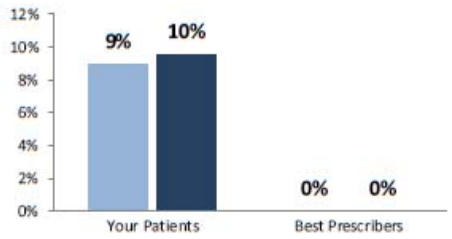
Percent of patients with AP medication possession ratio of 90% or above

	Dec-11	Jun-12	Change 12/11-6/12
Your Patients	58%	64%	6%
Best Prescribers	83%	77%	-5%



Percent of patients receiving AP med dose above FDA max in past 90 days

	Dec-11	Jun-12	Change 12/11-6/12
Your Patients	9%	10%	1%
Best Prescribers	0%	0%	0%



DATA SOURCE: ProviderOne Operational Data Store

DATA DEFINITIONS: Patients receiving antipsychotic medication are attributed to the provider who wrote the most Medicaid-paid prescriptions for them in the reporting period. In the event of a tie, the patient is attributed to their most recent prescriber. Antipsychotic medications include conventional and atypical types. Measures are calculated over the portion of the 6-month reporting period where the patient was eligible for Medicaid, excluding time spent in a nursing facility, a medical or psychiatric hospital, or a state mental hospital. "Current gap" and "Medication Possession Ratio" measures are based on antipsychotic medication availability as determined by medication fill dates and the associated days supplied. Quality indicators are based on patients meeting the following criteria: (1) age 18-64 as of the end of the reporting period, (2) enrolled in SSI-related Medicaid coverage and not dually eligible for Medicare, (3) diagnosed with psychotic or mania/bipolar disorder in past two years, and (4) received antipsychotic medication in the reporting period. "Best prescriber" level is the 90th percentile among the 100 prescribers with the largest number of patients attributed to them.

Marc Avery, MD

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Ryan Kimmel, MD

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