Pharmacist Run Academic Detailing Behavioral Health Polypharmacy Program Delivers Positive Outcomes Within a Medicaid Population

K. Brown-Gentry, C. Henderson, V. Zeilinger, C. Wilson, K. Karagonzian, K. Prasla
Magellan Rx Management, Scottsdale, AZ

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Purpose
To evaluate the clinical and economic outcomes of a prescriber focused academic detailing program targeting behavioral health polypharmacy.

Background
Psychiatric polypharmacy has developed into a widespread clinical practice for many psychiatric conditions. It is estimated that up to one-third of all patients are prescribed three or more psychoactive drugs.1 In addition, it is estimated that polypharmacy is responsible for 28% of hospital admissions and one-quarter of the leading cause of death in the United States.2

A field based pharmacist academic detailing program, Whole Health Rx, was created to identify providers who had patients taking four or more medications and to address polypharmacy and/or controlled substances within the last 30 days. The pharmacists scheduled consultations with the providers to review the medication regimens of the patients, and worked with them to identify opportunities to consolidate therapy (e.g. therapeutic duplication, multiple dose forms, or dual use of medications). In unusual cases, the provider needed to write new prescriptions, write a 90-day extension, order a new medication, or prioritize other medications that were supposed to be discontinued, etc.

Methods
A computer generated list of all prescribers who had at least one patient being prescribed a minimum of four BH and/or controlled substances within a 30-day period was derived each month. The providers were ranked by the number of opportunities and the pharmacist would prioritize consultations with the providers with the most opportunities. The BH and controlled substances included in the algorithm were: antipsychotics, antidepressants, attention deficit hyperactivity disorder medications, mood stabilizers, benzodiazepines, sedatives, hypnotics, barbiturates, and CII, CIII and CIV narcotics. During the intervention period, providers received detailed patient information and were asked to validate that each prescription was intended and not a result of miscommunication or refills that have not been discontinued, assess safety of the medication regimen, assess the complexity of the regimen's effect on adherence and validate patients' adherence, and optimize dosage. Interventions were conducted between January and October of 2013 within two unique study populations: a FFS Medicaid plan and a Specialty Managed Medicaid plan designed to treat members with serious mental illness.

Using 548 version 9 pharmacy and medication claims of identified patients were extracted six months pre and post intervention, where the intervention date served as the index date. Data is only included if patients meet the inclusion criteria for all post and pre intervention periods.

Results
TABLE 1: Outcome Summary Statistics Stratified by Study Population and Six Month Intervention Period

A total of 415 prescriptions received an intervention between January and October 2015, resulting in 2,784 patients that met the inclusion criteria for the combined study population (FFS Medicaid, n = 2,005; Specialty Managed Medicaid, n = 779). We compared demographic information for the two study populations and observed no differences for age, sex and medical diagnoses. On average, the Specialty Managed Medicaid study sample was significantly older (mean age 52.8 years) compared to the FFS Medicaid study sample (mean age 51.2 years). In addition, the Specialty Managed Medicaid client had significantly more female patients (62.9%) compared to the FFS Medicaid sample (56.6%). Lastly, the top three diagnoses drove off all medical diagnosis codes from the 2015 year differed across the two study populations. The top three diagnosis for the Specialty Managed Medicaid study sample included: Other General Medical Conditions (ICD-9 780), Schizophrenia NOS Unspecified (ICD-9 295.70) and Paranoid Schizophrenia Unspecified (ICD-9 295.5). The top three diagnosis for the FFS Medicaid study sample included: Schizophrenia Disorganized (ICD-9 295.70); ADD of Childhood with Hyperactivity (ICD-9 314.01) and Post Traumatic Stress Disorder (ICD-9 309.81).

When limiting the data to all pharmacy claims specific to the target drugs, we observed a statistically significant 12.9% reduction in pharmacy spend (p<0.0001), resulting in an estimated reduction of $1.6 million. The observed reduction in pharmacy spend for the target drugs replicated across the two lines of business (FFS Medicaid, p<0.0001; Specialty Managed Medicaid, p<0.0001). In addition, we observed a 3.9% reduction in utilization specific to the target drugs (p<0.0001) in the combined subset of patients. In the FFS Medicaid sample, there was a significant 3.5% reduction in utilization for the target medications (p<0.0001); however, the observed reduction in utilization in the Specialty Managed Medicaid sample was non significant (p=0.55). Lack of replication in the reduction of utilization may be an artifact of the smaller sample size in the Specialty Managed Medicaid sample.

When comparing pre and post utilization, we observed a significant 11.9% reduction in ER utilization and a 9.6% reduction in Inpatient Hospital utilization in the aggregated sample. The observed reduction in both ER and Inpatient utilization significantly replicated across the two lines of business (FFS Medicaid, p<0.0001; Specialty Managed Medicaid, p<0.0001). Across both study samples the reduction in ER utilization was significant (p<0.0001); however, the observed reduction in utilization in the Specialty Managed Medicaid sample was non significant (p=0.14). Lack of replication in Inpatient Hospital claims resulted in a 13.4% reduction in medical spend ($814,513). Lastly, at six months post intervention there was a 28% reduction in the number of patients that were prescribed four or more of the target medications (Figure 1).

Discussion
Academic detailing targeted at prescribers has had a positive impact on BH polypharmacy within both a FFS Medicaid and Specialty Managed Medicaid population. The observed reductions in BH polypharmacy and ER and Inpatient Hospital utilization may be an artifact of the performed interventions, and we cannot be certain that the post intervention period has prevented all potential polypharmacy in our population or that the intervention should be stopped. The results of our study suggest that pharmacist academic detailing has a positive impact on reducing polypharmacy and may provide an opportunity for pharmacist run interventions, and providers has had a positive downstream effect that has extended into the areas of research, helped with the development of appropriate utilization guidelines for BH drugs, and allowed the pharmacists to serve in a consultative capacity for medication management of patients. These activities, though difficult to track, could have an additive benefit to improving the quality of patient care for their clients.

References