

Impact of the addition of a clinical pharmacist to a community hospital psychiatric consult liaison team

Carly A. Rainey, PharmD candidate¹

Melissa C. Palmer, PharmD, BCPS, BCPP²

How to cite: Rainey CA, Palmer MC. Impact of the addition of a clinical pharmacist to a community hospital psychiatric consult liaison team. Ment Health Clin [Internet]. 2020;10(5):301-4. DOI: 10.9740/mhc.2020.09.301.

Abstract

The objective of this data analysis was to assess the impact of the addition of a clinical psychiatric pharmacist to a community hospital inpatient psychiatric consult liaison team. Consult liaison psychiatry deals with medically ill patients in general hospital settings and involves the timely recognition and treatment of mental health conditions while coordinating with other medical providers. Each patient consulted to the psychiatry team was reviewed by the clinical pharmacist. Recommendations made by the clinical pharmacist were tracked over a 9-month period. During that time frame, 596 opportunities for intervention were identified. The largest proportion of identified opportunities for intervention were related to admission medication reconciliation, equating to roughly 30%. Optimization of safe medication use had the second largest number of opportunities for intervention at approximately 27%. Additional data, such as time spent on patient care, reason for consultation, and number of accepted recommendations based on medication class/type of intervention, were collected.

Keywords: psychiatric consult liaison team, clinical psychiatric pharmacist, consult liaison psychiatry

¹ Student, University of Missouri–Kansas City School of Pharmacy, Kansas City, Missouri, ORCID: <https://orcid.org/0000-0002-5418-3258>;
² (Corresponding author) Clinical Assistant Professor, University of Missouri–Kansas City School of Pharmacy, Kansas City, Missouri, palmerme@umkc.edu, ORCID: <https://orcid.org/0000-0002-1631-9935>

Disclosures: The authors have nothing to disclose.

Background

In the United States, 1 in 5 adults had a mental illness in 2017 although, of those, only 42.6% were estimated to receive mental health services.¹ Lack of treatment is thought to decrease life expectancy for adults with a serious mental illness by 25 years, and impaired psychosocial functioning is estimated to cost the United States \$193.2 billion in lost earnings each year.^{2,3} Hospitals in the midwest county in which this article is based reported 5269 nonemergency room hospitalizations with mental illness as the primary diagnosis in 2016, and 16 907 hospitalizations with a secondary diagnosis of mental illness in the same year.⁴ Hospitals without access to

psychiatric inpatient care often rely on consult liaison psychiatry.

Consult liaison psychiatry specifically deals with medically ill patients in general hospital settings and involves the timely recognition and treatment of mental health conditions while coordinating with other medical providers to provide holistic patient care.⁵ Specialist inpatient input can then be provided to the patient outside of the acute psychiatric setting although this excludes individual and group therapy typical of inpatient psychiatric facilities. Consultation rates in 3 US studies have been reported at less than 5% of all inpatients.⁶⁻⁸

A significant issue affecting access to mental health treatment is provider shortage. Health professional shortage areas, as designated by the Health Resources & Services Administration, includes a population of almost 120 million as of March 2020.⁹ Approximately 70% of practicing psychiatrists are more than 50 years old.¹⁰ A low rate of provider replacement could exacerbate the

shortage although physicians entering psychiatry residency and fellowship programs upon graduation have increased in recent years.¹¹ Psychiatric pharmacists can play a unique role in the health care system by improving gaps in care through patient-centered care and clinical services. The benefit of a psychiatric pharmacist to a collaborative care model has been shown to improve clinical outcomes, such as effectiveness and adherence.¹²

Practice Description

A clinical faculty member at a midwest school of pharmacy was added to the psychiatric consult liaison team of a community hospital in August of 2017 to serve as the psychiatric clinical pharmacist. Prior to the addition of the board-certified psychiatric pharmacist, the community hospital's psychiatric consult liaison team consisted of 1 psychiatrist and a behavioral health social worker. In addition, a psychiatric nurse practitioner was hired in December 2017.

From August 2017 through April 2018, the pharmacist was present at the hospital 3.5 days per week for a total of 28 hours. Each patient consulted under the psychiatry team was reviewed by the pharmacist. A medication history and reconciliation was completed for each patient. Collateral information, such as pharmacy fill records, outside facility records, state prescription drug-monitoring programs, medication bottles, and statements from friends/family, were gathered and utilized when appropriate. Select patients were then interviewed by the pharmacist or learner. For new patients, a full psychiatric history was obtained, including diagnoses, past psychiatric hospitalizations, recent medication changes, family and social history, and past psychotropic use. On average, 2 to 5 new consult patients were interviewed by the pharmacist each day.

A psychiatry consult note template was utilized for documentation of encounters and recommendations; the latter was then communicated to the consult team during informal rounds. Notes were cosigned by the consulting psychiatrist. If nonpsychiatric opportunities for intervention were identified, this information was relayed to the clinical pharmacist covering the unit. Social work was notified of any potential needs, such as outpatient mental health referrals. If psychotropic medication changes were made, the patient was provided with appropriate education and monitoring by the pharmacist throughout the remainder of the hospitalization. The Figure summarizes the consultation process.

Results

Psychiatric recommendations made by the pharmacist were tracked via electronic medical record documentation

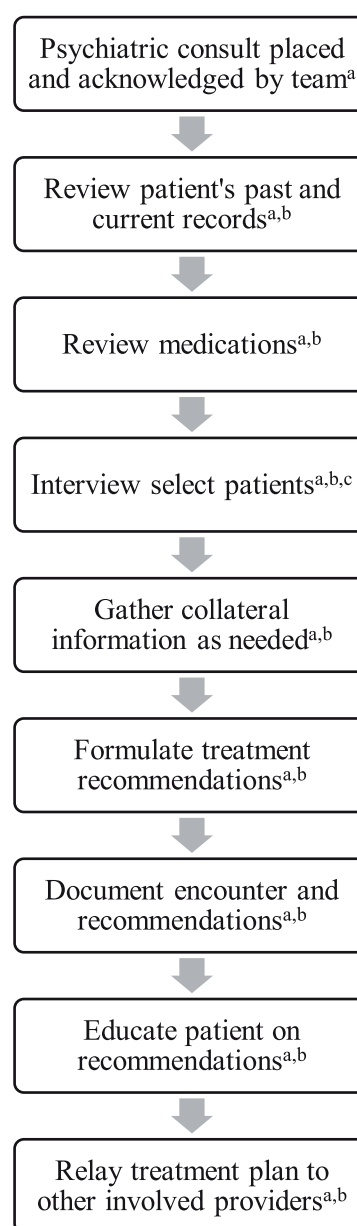


FIGURE: Psychiatric consult process (^aclinical pharmacist involvement; ^bpharmacy student involvement; ^cselection of patients on which to complete a comprehensive interview was mainly determined at the pharmacist's discretion; patients with polypharmacy were prioritized)

for 9 months from integration into service. During this time frame, 1295 patient consults were received by the team, equating to roughly 6% of all inpatient admissions. Overall, 596 psychiatric opportunities for intervention were identified in 370 patients, equating to roughly 1.6 opportunities for intervention per patient. Of these patients, 42% (n=162) were referred to the psychiatric consult team for depressive symptoms and/or suicidal ideation, followed by 17% (n=72) for substance use, 14% (n=53) for delirium, and 11% (n=41) for schizophrenia. Other psychiatric problems, such as anxiety, mania,

TABLE 1: Description of recommendations

Recommendation	n (%)	% Accepted
Medication reconciliation adjustment	189 (31.71)	85
Discontinuation of medication	104 (17.45)	81
Labs ordered	69 (11.58)	99
Change in dose	57 (9.56)	81
Initiation of medication	47 (7.89)	83
Other ^a	36 (6.04)	91
Patient education	29 (4.87)	... ^b
Allergy/intolerance added to chart	23 (3.86)	... ^b
IV to PO conversion	23 (3.86)	96 ^c
Within-class medication switch ^d	19 (3.19)	84

IV = intravenous; PO = by mouth.

^aExamples include changing medication dose time; recommendation of nonpharmacologic treatment, such as electroconvulsive treatment; and review of urine drug screens (typically regarding potential for false positives).

^bDid not require provider oversight.

^cIf patient was able to tolerate PO, then medications ordered by IV route were changed to oral if possible.

^dSecondary to medication ineffectiveness.

dementia, etc, each comprised less than 5% of consults. Psychosis secondary to substance intoxication was classified under substance use although concrete classification of this was presumed at times due to positive admission urine drug screens.

Thirty-one percent (n=185) of all opportunities for intervention were related to the admission medication reconciliation. Optimization of safe medication use had the second largest number of identified opportunities for intervention at approximately 27% (n=160). Examples of this include diphenhydramine ordered as needed for sleep in patients with delirium and oversedation with benzodiazepine use. Table 1 details the recommendations, including the percentage that was accepted. Recommendations were accepted by the consulting psychiatrist more than 80% of the time. Approximately 32% (n=189) of recommendations involved order clarifications related to the medication reconciliation. This included omissions and incorrect medications, dosages, or directions for use.

TABLE 2: Recommendation acceptance based on drug class

Recommendation Acceptance	Drug Class Interventions, n (%)				
	Antidepressant	Antipsychotic	Benzodiazepine	Mood stabilizer	Other ^a
Yes	90 (89.11)	77 (79.38)	73 (85.9)	35 (79.5)	97 (89.8)
Yes with modification	6 (5.94)	10 (10.31)	5 (5.9)	5 (11.4)	2 (1.9)
No	5 (4.95)	7 (7.22)	6 (7.1)	4 (9.1)	6 (5.6)
Patient discharged prior to response	0 (0)	3 (3.09)	1 (1.2)	0 (0)	3 (2.8)
Total	101	97	85	44	108

^aTrazodone, nonbenzodiazepine sedative-hypnotics, buspirone, gabapentin, substance use treatments (methadone, buprenorphine, acamprosate, naltrexone), stimulants, nicotine replacement therapy, over-the-counter agents.

Recommendations were primarily distributed between antidepressants, antipsychotics, benzodiazepines, and *other* in comparison to mood stabilizers as shown in Table 2. Time spent was also tracked based on preexisting time frames within the hospital's system (<1, 1 to 5, 6 to 15, 16 to 30, or >30 minutes). Notably, 30% of medication reconciliations took more than 30 minutes. This was often complicated by patient unfamiliarity with their medications, resulting in reliance on other sources of information. Medication reconciliations were also complicated by patients unable to provide information due to delirium or other circumstances. When possible, 2 sources were utilized to confirm a patient's home medications.

Discussion

Integration of a clinical psychiatric pharmacist into a psychiatric consultation team demonstrated several benefits with nearly 600 interventions made over a 9-month period with the majority accepted. One of the largest areas of impact was on medication reconciliation. A third of the recommendations were related to the admission medication reconciliation, suggesting a need for further development of medication reconciliation processes within the institution.

Completion of an accurate medication history with reconciliation of discrepancies is imperative to patient care. An improved and streamlined process for completing medication histories on admission could enable the pharmacist to devote more time to complex patient care tasks, such as optimizing medication therapy and appropriate monitoring. Recently, a pharmacy technician has been hired to complete medication histories in the emergency department. The impact of this is of considerable interest.

Limitations of the data include lack of patient-oriented outcomes, such as achievement of remission. Interventions were individually entered by the pharmacist, and there remains the possibility of missed data or incorrect

documentation. Last, a control group for comparison was lacking, and findings may not be generalizable to other psychiatric clinical pharmacist positions.

Conclusion

The descriptive data included in this analysis demonstrates the impact of a board-certified psychiatric pharmacist on a psychiatric consult liaison team and highlights areas in which additional analyses are needed; for instance, the effect of recommendations on patient outcomes, such as time to discharge or resolution of psychiatric symptoms. The largest proportion of the pharmacist's time and recommendations involved medication reconciliation, suggesting a need for development of more efficient processes within the institution. This would allow for the pharmacist to focus on more critical clinical aspects, such as optimization of medication therapy and appropriate medication monitoring.

References

1. Mental health services – AMI. Bethesda (MD): National Institute of Mental Health Mental Illness [updated 2019 Feb 28; cited 2019 July 31]. Available from: https://www.nimh.nih.gov/health/statistics/mental-illness.shtml#part_154785
2. Morbidity and mortality in people with serious mental illness. Alexandria (VA): National Association of State Mental Health Program Directors Medical Directors Council [updated 2006 Oct 31; cited 2019 July 31]. Available from: https://mopeerspecialist.com/wp-content/uploads/2018/03/HD_Mortality_and_Morbidity_Final_Report_81808.pdf
3. Insel TR. Assessing the economic costs of serious mental illness. *Am J Psychiatry*. 2008;165(6):663-5. DOI: [10.1176/appi.ajp.2008.08030366](https://doi.org/10.1176/appi.ajp.2008.08030366). PubMed PMID: [18519528](https://pubmed.ncbi.nlm.nih.gov/18519528/).
4. 2018 status report on Missouri's substance use and mental health. Jefferson City (MO): Missouri Department of Mental Health [cited 2019 July 19]. Available from: <https://dmh.mo.gov/alcohol-drug/reports/status/2018>
5. Bronheim HE, Fulop G, Kunkel EJ, Muskin PR, Schindler BA, Yates WR, et al. The Academy of Psychosomatic Medicine practice guidelines for psychiatric consultation in the general medical setting. The Academy of Psychosomatic Medicine. *Psychosomatics*. 1998;39(4):S8-30. DOI: [10.1016/s0033-3182\(98\)71317-9](https://doi.org/10.1016/s0033-3182(98)71317-9). PubMed PMID: [9691717](https://pubmed.ncbi.nlm.nih.gov/9691717/).
6. Diefenbacher A, Strain JJ. Consultation-liaison psychiatry: stability and change over a 10-year-period. *Gen Hosp Psychiatry*. 2002;24(4):249-56. DOI: [10.1016/s0163-8343\(02\)00182-2](https://doi.org/10.1016/s0163-8343(02)00182-2). PubMed PMID: [12100835](https://pubmed.ncbi.nlm.nih.gov/12100835/).
7. Bourgeois JA, Wegelin JA, Servis ME, Hales RE. Psychiatric diagnoses of 901 inpatients seen by consultation-liaison psychiatrists at an academic medical center in a managed care environment. *Psychosomatics*. 2005;46(1):47-57. DOI: [10.1176/appi.psy.46.1.47](https://doi.org/10.1176/appi.psy.46.1.47). PubMed PMID: [15765821](https://pubmed.ncbi.nlm.nih.gov/15765821/).
8. Dhossche DM, Lorant Z. Psychiatric consultations in a southern university hospital. *South Med J*. 2002;95(4):446-9. PubMed PMID: [11958245](https://pubmed.ncbi.nlm.nih.gov/11958245/).
9. Designated health professional shortage areas statistics: second quarter of fiscal year 2020. Washington: US Department of Health & Human Services [updated 2020 April 1; cited 2020 May 8]. Available from: <https://data.hrsa.gov/Default/GenerateHPSAQuarterlyReport>
10. Butryn T, Bryant L, Marchionni C, Sholevar F. The shortage of psychiatrists and other mental health providers: causes, current state, and potential solutions. *Int J Acad Med*. 2017;3(1):5-9. DOI: [10.4103/IJAM.IJAM_49_17](https://doi.org/10.4103/IJAM.IJAM_49_17).
11. National Resident Matching Program®. Advance data tables for the 2020 Main Residency Match® [cited 2020 May 8]. Washington: The Match. Available from: <https://mkonrmp3oyqui6wqfm.kinstacdn.com/wp-content/uploads/2020/03/Advance-Data-Tables-2020.pdf>
12. Goldstone LW, DiPaula BA, Caballero J, Park SH, Price C, Slater MZ. Improving medication-related outcomes for patients with psychiatric and neurologic disorders: value of psychiatric pharmacists as part of the health care team. *Ment Health Clin [Internet]*. 2015;5(1):1-28. DOI: [10.9740/mhc.2015.01.001](https://doi.org/10.9740/mhc.2015.01.001).