

Psychotropic stewardship: Advancing patient care

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Abstract

Board Certified Psychiatric Pharmacists (BCPPs) practice in a variety of inpatient and outpatient health care settings as part of collaborative, multidisciplinary teams. The American Association of Psychiatric Pharmacists (AAPP) has promoted the expansion of psychiatric pharmacy through the development of psychotropic stewardship programs (PSPs). Based on the standards developed during the creation and expansion of antimicrobial stewardship programs, psychotropic stewardship promotes the safe and appropriate use of psychotropic medications. AAPP envisions every patient with a psychiatric diagnosis will have their medication treatment plan reviewed, optimized, and managed by a psychotropic stewardship team with a psychiatric pharmacist as a co-leader. Because of variations in practice site resources, patient populations, and provider collaboration, the creation and implementation of PSPs should be based on site-specific needs and opportunities. Initial patient identification could prioritize those prescribed multiple medications, high-risk psychotropics, or comorbid medical diagnoses. However, every patient prescribed a psychotropic medication should have the opportunity to work with a PSP. Incremental implementation may be required during the planning stages of stewardship teams. Use of clinical practice-related core outcomes will allow for the optimization of program resources, increased recognition, and improved patient outcomes. PSPs should be patient-focused and integrate patients' preferences and access to recommended treatment options. The eventual goal of PSP implementation is official recognition by key regulatory agencies as a standard of care for patients who receive a diagnosis of a psychiatric or substance use disorder.

Keywords: clinical pharmacists, psychiatric disorders, psychotropic drugs, psychiatric pharmacists, psychotropic stewardship, comprehensive medication management

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Introduction

The American Association of Psychiatric Pharmacists (AAPP) commissioned a position paper¹ to share its vision for the future. The “Vision Paper” provided guidance on the continued growth and focus of psychiatric pharmacy to help



individuals recover from psychiatric disorders, including substance use disorders (SUDs).¹ In addition to identifying the Board Certified Psychiatric Pharmacist (BCPP) as the gold standard credential for all psychiatric pharmacists, the paper promoted the expansion of BCPPs' roles through psychotropic stewardship.¹ The optimal goal is every patient with a psychiatric disorder, including SUD, will have their medication therapy reviewed, optimized, and managed by a psychiatric pharmacist as part of a psychotropic stewardship team.¹ At settings with current BCPP coverage, psychotropic stewardship should become the standard of care. The introduction and eventual standardization of psychotropic stewardship across patient care settings may take time and may lead to an increased need for BCPPs. Similar growth was seen in the infectious disease pharmacy community when The Joint Commission (TJC) approved standards for antimicrobial stewardship. The first board certification exam in infectious diseases took place in fall 2018. Since then, more than 1700 pharmacists have obtained the Board Certified Infectious Disease Pharmacist credential.² Initial implementation of psychotropic stewardship programs (PSPs) may need to stratify patients with the highest risks of medication-related problems, comorbid conditions, or hospitalization. As the number of BCPPs increases, optimal coverage of all patients with a mental health and SUD will be provided.

Similarly to antimicrobial stewardship,³⁻⁵ psychotropic stewardship promotes the safe and appropriate use of psychotropics, minimizes unintended consequences, and improves patient outcomes.¹ Nearly 1 in 5 adults in the United States (52.9 million) lives with a psychiatric disorder.⁶ However, less than half of these patients (46.2%) received mental health treatment.⁷ Patients with comorbid psychiatric disorders and medical conditions have higher health care use, increased costs, and poorer outcomes.⁸⁻¹⁰ The American Psychiatric Association highlighted an opportunity for significant cost savings if comorbid psychiatric conditions were effectively treated in individuals suffering from chronic medical conditions.¹¹ Unfortunately, the shortage of psychiatrists¹² and other behavioral health providers has contributed to the under-treatment of patients with psychiatric and SUDs.

The National Council for Mental Wellbeing Medical Director Institute endorsed advanced practice behavioral health professionals, including BCPPs, to alleviate the shortage of psychiatrists and to improve patient access to care.¹³ Others have advocated for psychiatric pharmacists as part of a team-oriented approach for patients with complex psychiatric disorders, SUD, and medical conditions to offset reduced access to care due to the shortage of psychiatrists.¹⁴ The practice of pharmaceutical care as a patient-focused process¹⁵ led to the development of Comprehensive Medication Management (CMM; Medication Management Task Force; www.pcpc.net). BCPPs will provide CMM as a core element of psychotropic stewardship. BCPPs as

members of a psychotropic stewardship team will complement existing patient care practices to ensure medication therapy is effective and safe.¹⁶ Collaboration with BCPPs may reduce provider workload and improve patient access to care, increasing capacity in a variety of clinical settings.¹

PSPs, co-led by a BCPP, should be the standard of care for all patients with a psychiatric disorder, including SUD. Specific recommendations are limited by the diverse settings currently served by psychiatric pharmacists and the lack of consistent study design and outcomes data.

Stewardship

Stewardship was formally defined in the World Health Organization's (WHO) World Health Report in 2000.¹⁷ Previous uses of the term *stewardship* as part of clinical pharmacy practice have varied significantly over time.¹⁸ These broader definitions of stewardship have been implemented across settings using existing tools that vary based on institutional access and availability. Essential components included completion of prospective audits and retrospective chart reviews, consulting with prescribers, and treatment team collaboration.

Table 1 briefly highlights some of these previously established programs and tools, including MedWise, Psychotropic Drug Safety Initiative, Medication Therapy Management alerts, Best Practice Alerts, and clinical surveillance. Supporting evidence for these tools in psychiatry and general medicine is provided to demonstrate the positive impact such programs have on patient care. Whether through the enhancement of patient satisfaction, prevention of adverse drug reactions, or reduction in hospitalizations or mortality, the impact of psychiatric pharmacists on direct patient care through these stewardship-related programs can be profound.

One area of medicine in which stewardship has progressed to make significant impacts on the prevention of inappropriate medication use and improvement of patient outcomes is infectious disease. In 2007, the Infectious Diseases Society of America (IDSA), in collaboration with the Society for Healthcare Epidemiology of America (SHEA), created guidelines for the development of hospital-based antimicrobial stewardship programs (ASPs) in the United States.³ In 2015, TJC approved an ASP standard for hospitals, critical access hospitals, nursing centers, ambulatory care organizations, and office-based surgery practices.³⁹ TJC expanded the ASP standard to outpatient settings in 2020, allowing for and guiding the implementation of antimicrobial stewardship within an ASP in all areas of infectious disease.⁴⁰

WHO and the Centers for Disease Control and Prevention both published guidelines expanding ASP to low- and

TABLE 1: Existing programs and tools

Program	Description/Overview	Outcomes/Evidence
MedWise	<p>Summary: A computer-based algorithm with integrated CDSS used for risk stratification.</p> <p>Patient identification: Using insurance claims data to identify prescription fill dates and days' supply, MRS for stratification can be derived from the burden of risk for adverse drug events, drug-induced QT prolongation, sedation, cytochrome P450 interactions, and anticholinergic effects on cognition.</p> <p>Service provided: Pharmacist consultation to review medication-related problems, which typically focuses on medication monitoring, medication reconciliation, management, adherence, and support.¹⁹</p>	<p>Psych-specific: None identified.</p> <p>General: Higher MRSs are associated with poorer health outcomes, including adverse drug events, falls, and mortality, indicating MRS may be used to minimize health care costs and optimize medication prescribing.²⁰ Further, with access to MRS, MedWise-CDSS-supported pharmacists were able to reduce the risk of adverse drug events through targeted interventions and enhanced medication safety.²¹ When medication safety reviews are prioritized according to MRS, mortality, emergency department visits, annual health care costs, and hospitalizations all improve.²²</p>
PDSI	<p>Summary: A Web-based dashboard with quarterly psychotropic medication prescribing trends that provides the pharmacist with "flags" for actionable patients and evidence-based recommendations.</p> <p>Patient identification: Veterans Affairs patients who may benefit from medication review by pharmacist for optimal prescribing and deprescribing of psychotropic medications.</p> <p>Service provided: Pharmacist consultation to review appropriateness, safety, and effectiveness of psychotropic medication use.</p>	<p>Psych-specific: Improved prescribing practices based on pharmacist recommendations being accepted by prescriber 66%.²³ PDSI program has 20 prescribing metrics that were tracked initially with 16 metrics showing improvement in national scores.²⁴ Most robust improvement in scores and impact on patients seen in pharmacologic treatment of: veterans with posttraumatic stress disorder, evidence-based treatment of substance use disorder, decreased inappropriate use of benzodiazepines, and decreased polypharmacy.²⁴</p>
MTM alerts	<p>Summary: CMS driven program for community pharmacists that uses drug claims data to identify eligible patients.</p> <p>Patient identification: Medicare Part D patients with multiple chronic diseases, patients with multiple drugs with anticipated high Part D drug cost, referral by psychiatrist, high health care users.</p> <p>Service provided: Pharmacist complete annual comprehensive medication review for patients and providers.</p>	<p>Psych-specific: Through a psychiatrist referral process, psychiatric pharmacists managed stable, yet complicated medical and psychiatric patients with multiple disease states and medications. This study highlights the role of pharmacist direct patient care to facilitate billable activities, improve adherence, and provide support for long-term medication use.²⁵ High health care users were identified and referred to a pharmacist if issues with medication adherence were identified through a screening process. Medication issues were addressed by a pharmacist as part of an integrated behavioral health team in primary care. This model resulted in improved patient and primary care provider satisfaction in treating high-use individuals.²⁶ Individuals with serious and persistent mental illness were referred to advanced practice clinical pharmacists' care via telehealth, which allowed patients to reengage in psychiatric care with high patient satisfaction. Additional results are pending.²⁷</p> <p>General: Patients who received MTM services had lower mortality rates, reduction in hospitalization risk, and increased risk for ED visits with no difference in medication cost.²⁸ MTM services were effective at improving annual health care cost, hospitalization, emergency department visit, and mortality.²⁸</p>

TABLE 1: Existing programs and tools (continued)

Program	Description/Overview	Outcomes/Evidence
BPAs	<p>Summary: An active or passive “pop up” reminder within the electronic health record used to enhance screening, monitoring, or medication use.</p> <p>Patient identification: BPAs can be triggered by the user based on an individual health system’s priorities or targets (eg, any patient receiving a second-generation antipsychotic medication, new diagnosis, or frequent admissions). Information included within the BPA may vary and help inform provider decision-making.</p> <p>Service provided: Can be used to trigger prescriber and/or pharmacist intervention of laboratory parameter ordering, flag drug interactions, or prompt a medication review or other intervention.</p>	<p>Psych-specific: BPAs have been found to positively impact metabolic monitoring rates for individuals treated with second-generation antipsychotic medications in the inpatient and outpatient settings.^{29,30} They can also be used to enhance completion rates for medication reconciliation within psychiatry.³¹</p> <p>General: BPAs can prompt other evidence-based screenings³² as well as improve medication management and patient and clinician satisfaction when used as part of a referral process.³³</p> <p>BPAs can identify patients for medication review during hospital admission based on new diagnosis, prior admissions, or specific medications, which has resulted in decreased readmission rates.³⁴</p> <p>BPAs targeting specific high-risk medications known to contribute to delirium in hospital allowed the pharmacist to review, educate, and implement process improvements to reduce exposure to these medications and risk of delirium.³⁵</p>
Clinical Surveillance (VigiLanz)	<p>Summary: A clinical surveillance program using data from hospital electronic medical records to provide health care insights provides access to reporting and pharmacy analytics to customize data reports via a plug-in solution for hospital electronic medical records.^{36,37}</p> <p>Patient identification: Similar to BPAs, rules can be created to scan medication lists, laboratory information, and patient-specific data to trigger an alert. Alerts can then be stratified based on risk and reviewed by a pharmacist or other provider.</p> <p>Service provided: Pharmacists’ follow-up on alerts and respond as clinically indicated.</p>	<p>Psych-specific: None identified.</p> <p>General: Clinical surveillance helps in identifying adverse drug reactions, promoting antimicrobial stewardship initiatives, creating patient safety alerts, reducing health care costs, and increasing productivity.³⁷</p> <p>Program identified high-priority alerts that identified patients with potential adverse drug reactions, which allowed providers to intervene and avert adverse drug reactions.³⁸</p>

BPA = Best Practice Alert; CDSS = clinical decision support system; MRS = MedWise Risk Scores; MTM = Medication Therapy Management; PDSI = Psychotropic Drug Safety Initiative.

middle-income countries and building on core elements of ASP.^{41,42} A constant of all the published guidelines for ASP was the inclusion of a clinical pharmacist as a team leader. The necessity of a clinical pharmacist’s involvement in ASPs was detailed by the American Society of Health-System Pharmacists,⁴ which highlighted the unique expertise, understanding of, and influence pharmacists have on appropriate antimicrobial use. Positive effects of pharmacists’ roles on ASPs also include daily review of prescribed antibiotics, outlining local antibiogram data, consultations, and providing continuing education.⁵

Regulatory Guidance on Opportunities for Psychotropic Stewardship

Omnibus Budget Reconciliation Act

The interpretive guidelines for the Omnibus Budget Reconciliation Act of 1987 requirements for nursing home

reform were implemented in 1990 by the Health Care Financing Administration. A specific focus of these guidelines was the reduction of unnecessary psychotropic medication prescriptions to manage agitation and other dementia-related symptoms in long-term care facilities. These regulatory mandates required long-term care facilities to establish an ongoing process to monitor, track, attempt dose reductions, and document the risks and benefits for each patient’s prescribed psychotropic medications. Although these requirements may be considered a previous version of psychotropic stewardship, we propose a broader, comprehensive clinical approach to medication management of psychotropics by BCPPs to provide improvements in patient care, safety, and management in the future.⁴³⁻⁴⁵

TJC

The Hospital Based Inpatient Psychiatric Services (HBIPS) Measure Set is a collection of quality measures created by

TJC to optimize the quality of care patients receive in psychiatric care settings. For example, HBIPS-5 specifically requires appropriate justification for patients being discharged on 2 or more antipsychotic medications.⁴⁶ TJC recommends that health care organizations create reports or measures to identify and audit patients' medication treatment plans for antipsychotic polypharmacy as a quality improvement method.⁴⁶ Psychiatric pharmacists are poised to take the lead in this quality improvement initiative because of their involvement in deprescribing practices and medication reconciliation.¹⁶

TJC also created the Comprehensive Accreditation Manual for Behavioral Health Care and Human Services,⁴⁷ a number of standards to target behavioral health care settings. A key component of all health care settings are the Medication Management standards. These measures can be used as justification for psychotropic stewardship, particularly:

- MM 01.01.05 “The organization monitors the use of psychotropic medications”
- MM 07.01.01 “The organization monitors individuals served to determine the effects of their medications”

TJC has continually stressed the importance of performance improvement measures. They encourage institutions to collect and evaluate metrics, such as medication errors, adverse medication reactions, and performance of high-risk, high-volume, problem-prone processes provided to high-risk or vulnerable populations.⁴⁸ TJC's National Patient Safety Goals highlight specific areas for optimization, including medication reconciliation and the transitions of care process. (NPSG.03.06.01).⁴⁹ Sites and organizations should analyze these data, implement improvements, and evaluate the effectiveness of implementation. A PSP would have a key role in implementing and monitoring these requirements.

CMS

CMS publishes a Specifications Manual for National Inpatient Psychiatric Facility Quality Measures (IPF Specifications Manual) highlighting opportunities for psychotropic stewardship, including justification of antipsychotic polypharmacy, screening and treatment of various SUDs, screening for metabolic disorders, and transitions of care issues.⁵⁰ Please refer to Table 2 for a summary of the reviewed regulatory standards.

Implementation Guidance

Based on the rapid implementation and development of regulatory standards in the practice of infectious disease

since the 2007 IDSA/SHEA publication, PSPs should use core elements from ASPs to advance the practice of psychiatric pharmacy and improve outcomes in patients treated for mental health disorders. With the guidance of creating PSPs in health systems being modeled after ASPs, a number of key differences between the programs exist and are important to elucidate. The primary focus of ASPs began with and continues to be prevention of antimicrobial resistance due to inappropriate prescribing. The primary goals of a PSP include the optimization of psychiatric pharmacotherapy through targeted prescribing practices, monitoring requirements, tolerability assessments, and deprescribing to reduce polypharmacy. Likewise, the PSP model proposed places the patient at the center of the team. ASPs historically have less direct-patient involvement and focus on prospective audit and feedback to optimize prescribing practices versus a patient-centered approach to promote buy-in and ultimately improve adherence. Likewise, at the outset of establishing PSPs, it is expected a BCPP will co-lead the psychotropic stewardship team given their credentialing and expertise in psychopharmacology. When ASPs were initially proposed, a clinical pharmacist, preferably one specializing in infectious disease, was recommended; however, there was no official certification or credentialing at that time delineating the expertise of the pharmacist involvement. The importance of BCPP involvement is highlighted by Dopheide et al¹:

BCPPs are highly trained mental health providers who assess the complexities of psychiatric illness in terms of social determinants of health, psychosocial, and biological factors influencing psychiatric symptoms and response to treatment. The BCPP credential signifies skill in collaborating with inter-professional teams to make appropriate referrals for preventative care and nonpharmacologic treatment.

In the following core elements below (Figure 1), both outpatient and inpatient settings will be combined with the term “health-system,” and any differences within will be noted as applicable. Creation and development of a PSP should use a Plan-Do-Study-Act for both inpatient and outpatient settings.

1. Psychotropic Stewardship Team

The psychotropic stewardship team shall comprise multidisciplinary core members, including a psychiatrist/physician, a BCPP, a social worker, a psychiatric nurse, and, most importantly, the patient. Depending on the practice site, additional team members may include a primary care physician, a physician's assistant, or a psychologist. Optional involvement of an information system specialist would help to optimize and round out the stewardship team. The psychiatrist/physician and BCPP shall serve as the team leaders, with their roles primarily being the optimization of

TABLE 2: Regulatory standards

TJC's Hospital-Based Inpatient Psychiatric Services⁵¹

- HBIPS-5
- Multiple antipsychotic medications at discharge with appropriate justification
 - 3 or more failures of monotherapy
 - Adjunct to clozapine
 - Cross titration with end date identified

TJC's National Patient Safety Goals⁴⁸

- NPSG.03.06.01
- Use medicines safely
 - Record and pass along correct information regarding patient's medications
 - Compare existing medications to new medications given to patients
 - Give patient written information about medicines they need to take

TJC's Medication Management Standards⁵²

- MM 01.01.05
- The organization monitors the use of psychotropic medications
 - Organization establishes written policies and procedures regarding
 - Use of multiple psychotropic agents in the same class
 - Use of high-dose pharmacotherapy
 - Prevention, identification, and management of side effects, including tardive dyskinesia
- MM 07.01.01
- The organization monitors individuals served to determine the effects of their medication(s)

TJC's Performance Improvement Standards⁵²

- PI 01.01.01
- The organization collects data to monitor its performance
 - Significant medication errors
 - Significant adverse medication reactions
 - Performance of high-risk, high-volume, problem-prone processes provided to high-risk or vulnerable populations
- PI 02.01.01
- The organization compiles and analyzes data
 - Uses data to identify improvement opportunities
- PI 03.01.01
- The organization improves performance
 - Takes action
 - Reassess if actions resulted in improvements
 - Takes action again, if needed

CMS Specifications Manual for National Inpatient Psychiatric Facility Quality Measures⁵⁰

- IPFQR program
- TJC Steward Measures
 - HBIPS
 - Substance use screening
 - Tobacco treatment
 - Immunization
 - IPF Specifications Manual
 - Screening for metabolic disorder
 - Transition record received by discharged patients
 - IPFQR Program Claims-Based Measure Specifications
 - Follow up after hospitalization
 - 30-day all-cause unplanned readmission
 - Medication continuation following inpatient psychiatric discharge

psychotropic regimens. Patients will serve as the center of the stewardship team to ensure buy-in with focused, goal-oriented outcomes. Inclusion of social work, nursing, and an information system specialist (optional) will aid in:

- Inpatient: day-to-day report of patient well-being and progress, and transitions of care, as well as data mining for prospective and retrospective interventions.
- Outpatient: appointment monitoring and follow-up, medication reconciliation, hospital readmissions, and

potential data mining for prospective and retrospective interventions.

2. Health System Collaboration

Collaboration of the psychotropic stewardship team with the health system's leadership is crucial to the implementation and success of the program. Leadership shall select and designate a team member in their respective fields and determine the expected outcomes for each discipline. Health

TABLE 2: Regulatory standards (continued)

NCQA's Healthcare Effectiveness Data and Information Set

Effectiveness of care behavioral health measures	<ul style="list-style-type: none">• Antidepressant medication management• Follow-up care for children prescribed ADHD medication• Diabetes and cardiovascular disease screening and monitoring for people with schizophrenia or bipolar disease• Adherence to antipsychotic medications for individuals with schizophrenia• Metabolic monitoring for children and adolescents on antipsychotics• Pharmacotherapy for opioid use disorder
Effectiveness of care medication management and care coordination measures	<ul style="list-style-type: none">• Transitions of care
Effectiveness of care overuse/appropriateness measures	<ul style="list-style-type: none">• Medication management in older adults• Use of opioids at high dosage• Use of opioids from multiple providers
Measures reported using electronic clinical data systems	<ul style="list-style-type: none">• Follow-up care for children prescribed ADHD medications• Depression screening and follow-up for adolescents and adults• Use of the PHQ-9 to monitor depression symptoms for adolescents and adults• Depression remission or response for adolescents and adults• Unhealthy alcohol use screening and follow-up• Prenatal depression screening and follow-up• Postpartum depression screening and follow-up

ADHD = attention-deficit hyperactivity disorder; CMS = Centers for Medicare & Medicaid Services; HBIPS = Hospital-Based Inpatient Services; IPFQR = Inpatient Psychiatric Facility Quality Reporting; NCQA = National Committee for Quality Assurance; PHQ-9 = Patient Health Questionnaire-9; TJC = The Joint Commission.

system committee involvement will identify setting-specific, strategic psychotropic elements for review, discuss outcomes, provide results, and create/update policies and procedures.

3. Strategic Psychotropic Review

Health systems or sites will create standardized, evidence-based treatment guidelines applicable to the population of treated patients in concordance with the needs of the health system and available resources. The following examples outline minimal goals for each health system or site to successfully implement a PSP:

- a. Regular review/audit of prespecified management of clinical conditions and/or flagged psychotropic treatments
 - i. See section on Patient Identification and Risk Stratification for examples
- b. Consultation service through a designated service line, email, patient rounds, etc.
- c. Regular formulary review and revision

4. Accountability

For successful implementation of a psychotropic stewardship team, each member shall have responsibilities and expectations clearly defined and enforced by team leaders

and health system leadership. Examples of responsibilities for core members may include those illustrated in Figure 2.

5. CMM

The use of CMM will be a collaboration between all PSP clinical team members. Psychiatric pharmacists will be responsible for assessing the appropriateness of medications, counseling patients/caregivers, evaluating adherence, and medication monitoring. In the absence of collaborative practice agreements, psychiatric prescribers will be responsible for modifying prescriptions and ordering labs, as well as obtaining and documenting complete medical and psychiatric histories. Psychiatric nurses will aid psychiatric prescribers in documentation of medical and psychiatric histories, routine assessments, and collection of objective and subjective information at visits and as necessary. Social work will schedule follow-up in accordance with monitoring requirements and ensure medications are attainable in both transitional and outpatient settings.

6. Supportive Technology

Access to an electronic pharmacy system to retrieve data for prospective audit and retrospective review will be necessary for the implementation of a PSP. Access to electronic medical records and computer physician order entry are ideal for initiating computer-based surveillance. This will

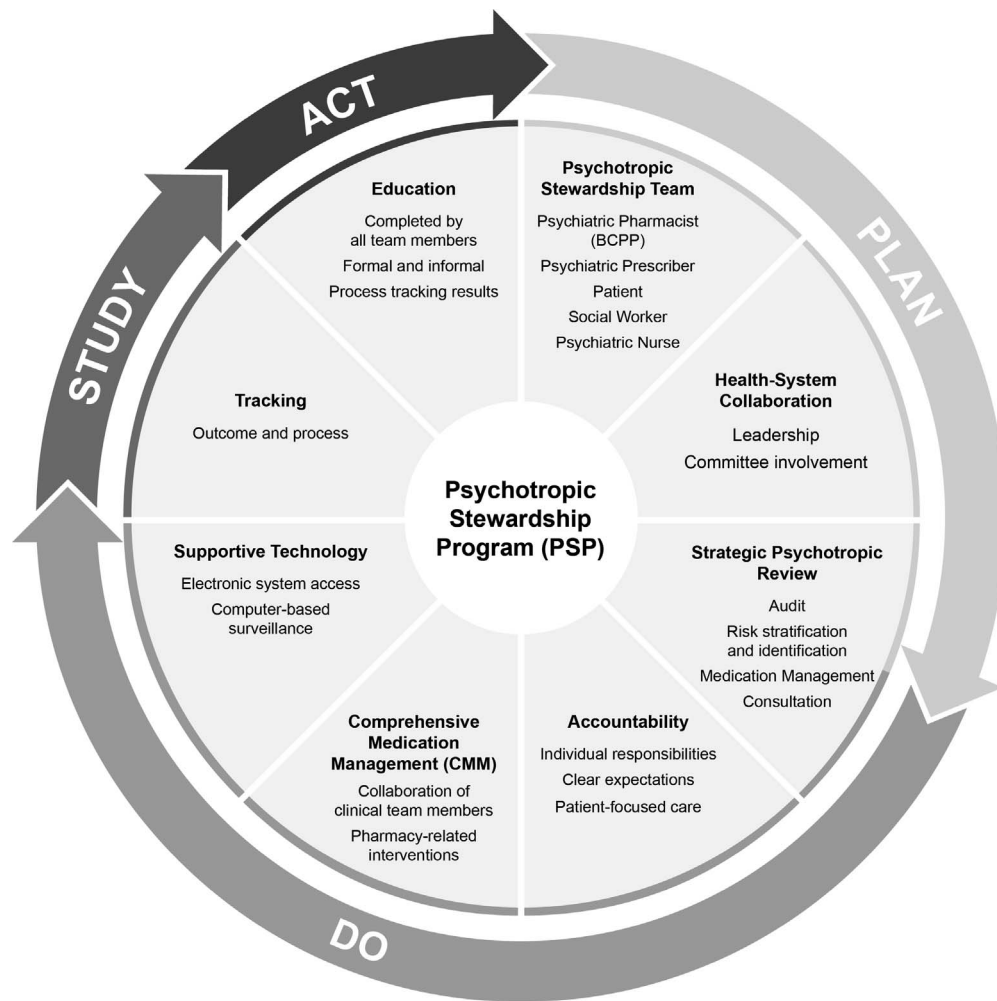


FIGURE 1: Core elements of a psychotropic stewardship program (PSP)

aid in targeting interventions, identifying outcomes, and obtaining and analyzing data, as well as reporting.

7. Tracking

Ongoing outcome and process tracking is crucial to the success of the PSP and team. Outcome tracking may include evaluations to ensure strategic actions, and interventions have improved patient outcomes. Process tracking may include evaluating use of policies and procedures, including updates, applicability, and ongoing assessment that they are being followed by the PSP.

8. Education

Health system-wide education shall be a required component of psychotropic stewardship. The types of education provided may start within the team and branch out to leadership, as well as interdepartmental and intradepartmental education. All members of the team must be

adequately trained and provide education as part of the core member requirement. Education may be in the form of formal or informal didactics, electronic communication, or messaging through posters, signs, and flyers, as well as through virtual means. Education may include academic detailing, reporting to health system committees and leadership, as well as departmental outcome reports.

Patient Identification and Risk Stratification

Development of a PSP will take time. Initial implementation may be limited by administrator and provider buy-in, staffing, time, and other resources. Identifying patients appropriate for psychotropic stewardship will vary from site to site based on patient populations, resources (eg, appropriate staffing, electronic health record), and collaboration with other professions. Each site and team should determine the best criteria for implementation of their PSP to ensure patients receive the care they need while also

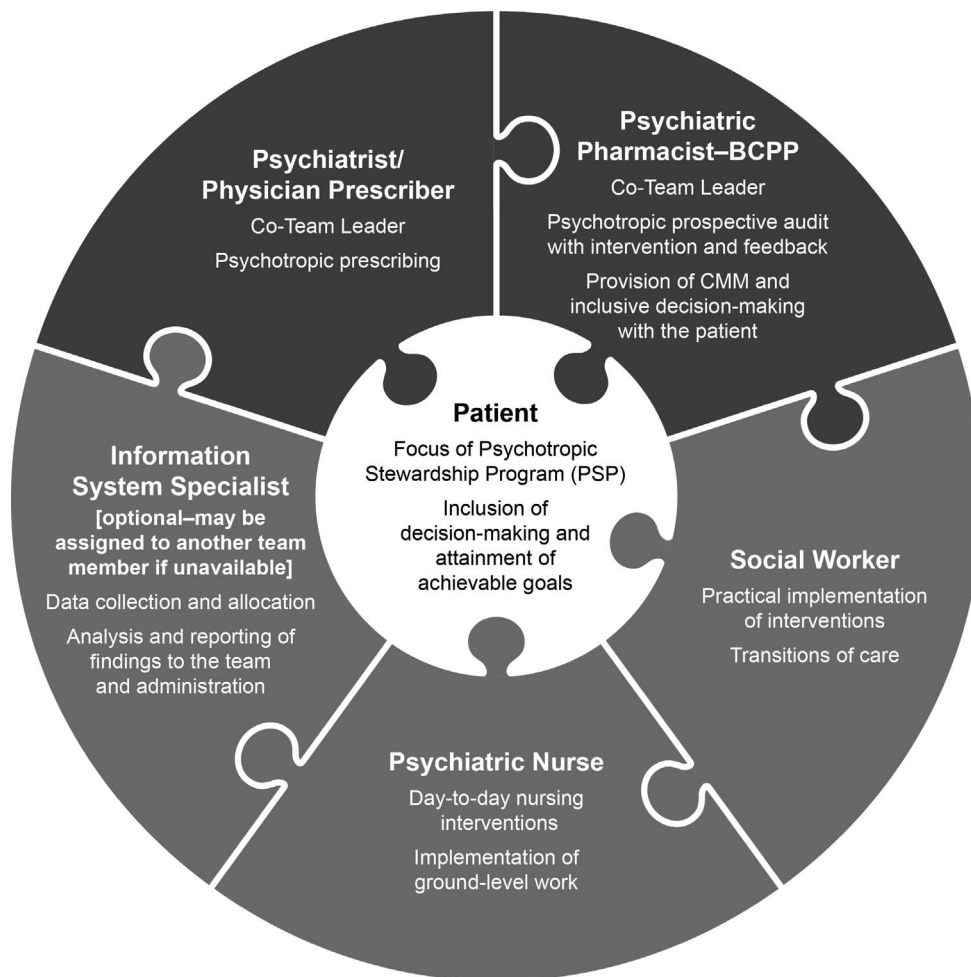


FIGURE 2: Psychotropic stewardship team accountability

balancing limited resources. Initiation of a stewardship program may focus on high-risk medications, patients with documented medication nonadherence, patients with comorbid medical diagnoses, or high users of health care resources. There is limited evidence on specific criteria or risk stratification strategies to identify patients who would most benefit from a PSP. Table 3 provides examples of potential patient criteria PSPs could use to identify appropriate patients. Those patients meeting multiple criteria could be prioritized if necessary.

Additional site-specific risk stratification could be developed to further identify appropriate patients based on review of initial outcomes, including the creation of customized electronic medical record reports or best practices alerts. In the future, technology and data from patients, providers, and payers may revolutionize the way patients are stratified.⁵³ Until these elements can be transformed into reliable and actionable steps, examples of key patient identification factors and example stratifications have been outlined in Tables 4, 5, and 6.

Examples of Initial Patient Care Stratification for PSPs: Outcomes

We encourage psychiatric pharmacists to use AAPP's upcoming Core Outcome Set for Psychiatric Pharmacists (COS-PP) to identify primary outcome and improve the consistency of clinical research. Addressing all the quadruple aims, COS-PP identifies 44 outcomes that could be impacted by psychiatric pharmacists. By providing streamlined evidence-based recommended measurements to capture those standardized outcomes in a variety of psychiatric conditions, PSPs will be able to strengthen their efforts for tracking internal progress, which has been identified as a core element in stewardship. Some COS-PP outcomes relevant to stewardship include⁵⁹:

Better Care

1. Improved prescriber adherence to evidence-based therapy
2. Optimized patient safety through surveillance

TABLE 3: Initial patient identification^{25-27,29,30,34,35,54-58}

Criteria	Examples	
Diagnoses	Autism spectrum disorder Intellectual disability Schizophrenia Tardive dyskinesia	Bipolar disorder Parkinson disease SUDs Treatment-resistant MDD
Medications	Carbamazepine Clozapine Lithium Phenytoin Valproic acid Second-generation antipsychotic Internally developed scoring system based on high-risk medications	Prescribed 2 or More: - Antipsychotics - Mood stabilizers - Antidepressants - Benzodiazepines Prescribed “high number” of chronic medications Beers List medication(s)
Provider referrals	Psychiatrist referral	PCP referral
Medical comorbidities	Diabetes Seizure disorder Hypertension CHF MI	Obesity Chronic pain Cardiovascular disease Stroke
Lifestyle	Smoking Stress Low physical activity	Poor nutrition Documented medication adherence issues
Pharmacoeconomic	High health care users Frequent ED visits	Top 1000 Medicaid patients Top 2000 Medicare patients
SDOH	Poverty Unemployment Adverse early life experiences Underserved minority group Foster care	Homelessness Food insecurity Abuse Uninsured

CHF = congestive heart failure; ED = emergency department; MI = myocardial infarction; PCP = primary care provider; SDOH = social determinants of health; SUD = substance use disorder.

- 3. Improved progress toward treatment goals
- 4. Decreased all-cause mortality

Reduced Cost

- 5. Decreased use of urgent health care services
- 6. Decreased length of stay

Improved Patient Experience

- 7. Increased patient medication adherence
- 8. Improved patient medication education (individual or group)
- 9. Improved coordination of patient transitions of care
- 10. Improved patient satisfaction

TABLE 4: Transitions of care: readmission prevention for schizophrenia and other psychotic disorders

Patients Discharged From Acute, Inpatient Psychiatric Care	
Inclusion criteria	Diagnostic criteria: <input type="checkbox"/> First-episode psychosis <input type="checkbox"/> Schizophrenia <input type="checkbox"/> Schizoaffective disorder <input type="checkbox"/> Psychosis NOS Medication criteria: <input type="checkbox"/> New antipsychotic prescription <input type="checkbox"/> New long-acting injectable antipsychotic <input type="checkbox"/> New clozapine prescription <input type="checkbox"/> Discharged with ±2 antipsychotic prescriptions
BCPP CMM referral	If patients meet 1 of the diagnostic criteria and at least one of the medication criteria, an appointment with a BCPP for CMM will be scheduled within 30 days of discharge

BCPP = Board Certified Psychiatric Pharmacist; CMM = comprehensive medication management; NOS = not otherwise specified.

TABLE 5: Inpatient and outpatient psychiatry medication use

One or More of the Following Criteria Will Create a BPA for Patients:

- Prescribed 3 or more antidepressants
- Prescribed 2 or more antipsychotics
- Prescribed 1 or more of the following medications:
 - Carbamazepine
 - Clozapine
 - Lithium
 - Phenytoin
 - Valproic acid
- With documented nonadherence

BPA = Best Practice Alert.

- 11. Improved patient quality of life
- 12. Improved patient medication access

Provider Well-Being

- 13. Reduced care team burnout with clinical pharmacy support
- 14. Improved collaboration and respect among the health care team members
- 15. Increased care team use of pharmacists for drug information, education, and mentorship

Conclusion

Implementation of psychotropic stewardship teams is a key component in the advancement of psychiatric pharmacy practice. The standards established by ASPs and recognized by regulatory agencies provide psychiatric pharmacists with an appropriate model to develop psychotropic stewardship teams in a variety of patient care settings. We encourage TJC to approve these standards and require PSPs in all settings treating mental health and SUDs. We recognize each health system and practice site is different in terms of resources, patient populations, providers, and administrative support. This paper should be used as an initial guide to identify what works best for each specific setting and take a Plan-Do-Study-Act approach. Combined with the proposed stewardship for antipsychotics, psychiatric pharmacists will be able to “Plan” the creation of PSPs for their respective patient populations.⁶⁰ Future psychotropic stewardship-related publications should evaluate what health systems were able to “Do” by using practice-related outcomes identified by the upcoming Core Outcomes Set, document successes, and share identified barriers. BCPPs are well-positioned to develop, implement, and lead psychotropic stewardship teams to become a regulatory standard in all health systems.

TABLE 6: Outpatient patient selection for psychotropic stewardship program (PSP)

Referral Criteria	
Prescribed medication	
Clozapine	<input type="checkbox"/> Documented lab nonadherence <input type="checkbox"/> Most recent outpatient prescription is >7 days from refill date <input type="checkbox"/> Most recent MH appointment >6 mo ago
Lithium	<input type="checkbox"/> Most recent serum level >6 mo <input type="checkbox"/> Most recent serum level >1.5 mmol/L <input type="checkbox"/> Most recent renal function assessment >6 mo <input type="checkbox"/> Most recent MH appointment >12 mo ago
LAI antipsychotic	<input type="checkbox"/> Most recent injection is 2+ wk past due from indicated administration time
MAOI	<input type="checkbox"/> New start medication indicating severe drug-drug interaction
SGA	<input type="checkbox"/> More than 1 y since fasting blood glucose or HgBA1c <input type="checkbox"/> More than 1 y since most recent BP <input type="checkbox"/> Greater than 5% increase in weight <input type="checkbox"/> New diagnoses of obesity
Additional criteria	
Diagnoses	<input type="checkbox"/> Two or more chronic conditions
Health care use	Two or more of the following: <input type="checkbox"/> One or more psychiatric admission(s) in the past 6 mo <input type="checkbox"/> Three or more ED visits within the past 6 mo <input type="checkbox"/> Six or more prescribed medications <input type="checkbox"/> Three or more outpatient providers during the past 6 mo <input type="checkbox"/> No PCP (outpatient MH) visit within the past year

Any of the above patient criteria for a qualifying medication will generate a referral for review by a BCPP as part of a PSP

BCPP = Board Certified Psychiatric Pharmacist; BP = blood pressure; ED = emergency department; LAI = long-acting injectable; MAOI = monoamine oxidase inhibitor; PCP = primary care provider; SGA = second-generation antipsychotic.

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