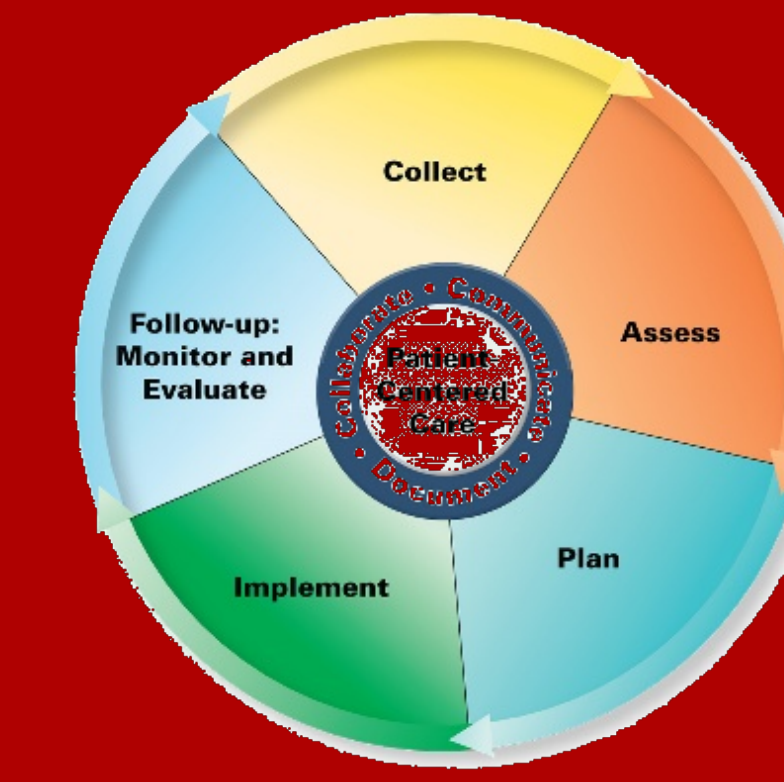


Impact of Medication-Related Problem Identification (MRP-ID) Tool on the Pharmacist's Patient Care Process (PPCP)

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Background

Developing proficiency in the Pharmacists' Patient Care Process (Collect, Assess, Plan, Implement, and Follow-up) takes time and practice.¹ Early on in the curriculum, pharmacy students are often overwhelmed by this process, specifically the identification of medication-related problems (MRPs).

An instructional tool within a clinical problem solving course that supports student's development towards becoming experts at identifying MRPs in complex patients was created.



Methods

Using a pre-post design, P2 students' ability to identify MRPs for a complex patient case in a simulated electronic medical record before and after introduction of the MRP-ID Tool was evaluated.

A standardized grading rubric was developed and benchmark interrater agreement was established between two evaluators using a random sample of 20% of the data. The statistical analysis included descriptive statistics and paired T-tests using SPSS.

Complex Patient Case Example Rubric

Priority	Assessment	Explanation	Plan	Monitoring
Primary: Hypertension	Elevated Blood Pressure	BP above goal of <130/80 ACC/AHA HTN guidelines. Beta blocker monotherapy inappropriate	Initiate CTD OR HCTZ 12.5mg daily OR Amlodipine 2.5-5mg daily. Patient with hx of angioedema on ACEi and UACR within normal limits	BP; edema (amlodipine); SCr/K (CTD/HCTZ)
Secondary: Type 2 Diabetes	Uncontrolled	A1c above goal of <7% ADA guidelines. Metformin can be maximized.	Increase Metformin to 1000mg BID	A1c, eGFR, GI ADRs (diarrhea)
Secondary: Dyslipidemia	Suboptimal drug therapy	Needs high intensity statin due to DM and 10 yr. risk of 16% with LDL goal < 100mg/dL.	Change to Atorvastatin 40-80mg daily OR Rosuvastatin 20-40mg daily	Lipid panel, s/sx of myalgias
Secondary: GERD	Suboptimal drug therapy	PPI dose is too low; dosed daily for GERD.	Increase Omeprazole to 20mg daily	Reflux symptoms

Results: Complete pre- and post-test data were available for 69% of the P2 Class (n=96)

Rubric component (maximum score)	Mean Score		Mean difference (95% CI)	P-value
	Pre-tool	Post-tool		
Problem Priority (5)	1.92	3.33	1.41 (1.015-1.810)	<0.001
Problem identification (4)	1.38	2.18	0.794 (0.534-1.054)	<0.001
Problem Explanation (7)	0.63	1.98	1.351 (0.944-1.757)	<0.001
Total Assessment (16)	3.93	7.47	3.546 (2.691-4.401)	<0.001
Plan Recommendations (10)	1.31	3.78	2.469 (1.925-3.014)	<0.001
Plan Monitoring (4)	0.67	1.33	0.660 (0.449-0.871)	<0.001
Total Plan (14)	1.97	5.10	3.129 (2.478-3.781)	<0.001
Total Rubric (30)	5.85	12.58	6.724 (5.327-8.121)	<0.001

Implications

Utilizing the MRP-ID Tool, P2 students demonstrated significant improvement in application of the PPCP for complex patient case workup, assessment, and plan development. Implementation and assessment of this tool in other skill-based courses across the PharmD curriculum are ongoing.

References: 1. Joint Commission of Pharmacy Practitioners. Pharmacists' Patient Care Process. May 29, 2014. Available at: <https://jcopp.net/wp-content/uploads/2016/03/PatientCareProcess-with-supporting-organizations.pdf>. Accessed 6/10/2024.