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Impact of clinical pharmacist medication review upon enrollment in a Program for All-inclusive Care of the Elderly (PACE)

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Background

- The Program of All-Inclusive Care of the Elderly (PACE) is a nation-wide medical care model that offers comprehensive community-based care for medically frail participants eligible for nursing home level of care. On national average, a PACE participant has six chronic conditions and is taking nine maintenance medications.¹
- A minority of PACE programs (approximately five of 126 programs nationwide) embed geriatric clinical specialist pharmacists within the PACE care team.
- This study was performed within a PACE network associated with a tertiary care center that assigns geriatric clinical pharmacists to patient care teams with a participant ratio of approximately 300 for each pharmacist FTE.
- Pharmacist duties include patient assessments, disease state management, and medication review at enrollment and at subsequent transitions of care.
- Upon enrollment with the PACE facility, every participant's medication profile is reviewed by a clinical pharmacist, who then works with both the participant and PCP to address drug-related issues.
- Pharmacist-led interventions are presumed to improve patient care and reduce cost. However, there is not currently a process in place to objectively capture and evaluate pharmacist work.
- Previous studies have demonstrated clinical and cost saving benefits of pharmacist involvement in transitions of care of medically complex patients.²

Purpose

To quantify and characterize the number and type of interventions and recommendations made by pharmacists at PACE program enrollment

Methodology

Study Design

Retrospective analysis of pharmacist interventions and recommendations completed at time of enrollment for all new participants with enrollment dates from November 1, 2019 to January 31, 2020

Primary Endpoint

Composite analysis of:

- Number of interventions completed upon enrollment
- Types of interventions

Secondary Endpoints

- Percentage of recommendations presented by pharmacists that are implemented at enrollment and within two months following enrollment. Progression towards a recommendation was counted as accepted
- Whether the intervention pertains to a medication on the 2019 Beers List
- Number of recommendations of which the primary goal was to reduce polypharmacy (defined as unused medications on an enrollee's medication profile)

Inclusion Criteria

All new PACE enrollees within the study period

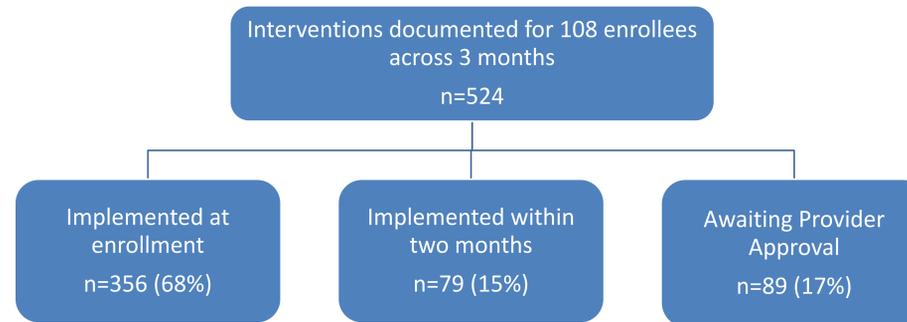
Exclusion Criteria

Disenrolled from PACE program during the study period

Data Collection

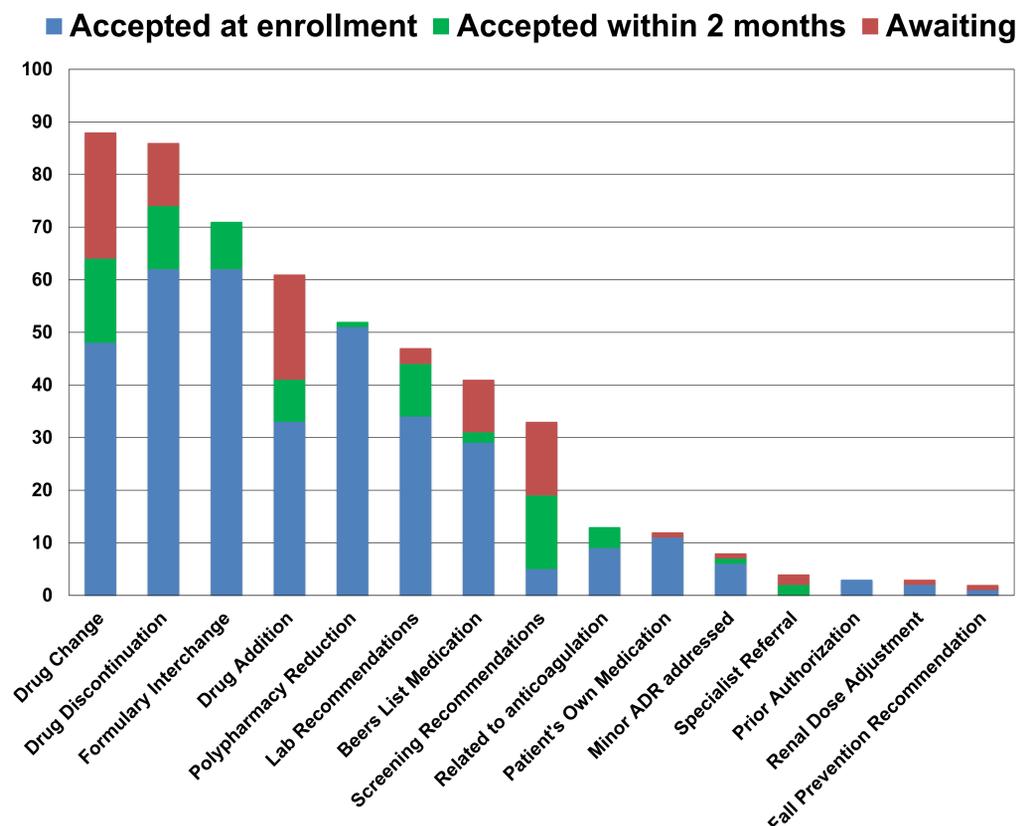
Prior to initiation of study, pharmacists were trained on intervention documentation system within electronic health record (EPIC i-Vents)

Results



Breakdown of Interventions (n=524)

Intervention	Number of interventions made	Interventions accepted at enrollment, n (%)	Interventions accepted between enrollment date and two months, n (% of remaining)	Total interventions implemented at 2 months, n (%)
Therapy Optimization	238	145	37	181 (76)
Drug Change	88	48 (55)	16 (40)	64 (73)
Drug Discontinuation	86	62 (72)	12 (50)	74 (86)
Drug Addition	61	33 (54)	8 (29)	41 (67)
Renal Dose Adjust	3	2 (67)	0 (0)	2 (67)
Formulary Interchange	71	62 (87)	9 (13)	71 (100)
Polypharmacy Reduction	52	51 (98)	1 (2)	52 (100)
Lab Recommendations	47	34 (72)	10 (21)	44 (94)
Beers List Medication	41	29 (71)	2 (5)	31 (76)
Screening Recommendations	33	5 (15)	14 (42)	19 (58)
Related to anticoagulation	13	9 (69)	4 (31)	13 (100)
Patient's Own Medication	12	11 (92)	0 (0)	11 (92)
Minor ADR addressed	8	6 (75)	1 (13)	7 (88)
Specialist Referral	4	0 (0)	2 (50)	2 (50)
Prior Authorization	3	3 (100)	--	3 (100)
Fall Prevention	2	1 (50)	0	1 (50)



Discussion

- Pharmacists were able to implement 68% of their interventions on date of enrollment. Interventions most commonly made prior to establishing a patient-provider relationship include discontinuing medications without indication, formulary interchanges, and addressing polypharmacy.
- Of the 168 interventions not accepted at enrollment, 47% were implemented within two months. This resulted in a cumulative total of 83% of pharmacist recommendations being implemented within two months of enrollment. The most common of these were therapeutic optimization, recommended screenings, recommended drug discontinuations, and recommended labs to obtain.
- There were 192 drugs for 52 patients were discontinued due to polypharmacy. These were defined as unused drugs that were possessed by the patient or on their prescription list. This indicates that many geriatric patients have many unused or unnecessary drugs on their medication profile that can lead to complications in their care.
- Pharmacists recommended the discontinuation of 74 drugs due to lack of indication. These are medications the patients were still taking. Discontinuing these medications is an effective way to reduce pill burden and ADRs in geriatric patients.
- Therapy optimization (drug change, addition, discontinuation, or dose adjustment) comprised 45% of pharmacist interventions. This demonstrates that a large amount of the interventions performed by pharmacists includes clinical decision making that may best benefit the patient. A total of 76% of these recommendations were accepted across the study period, indicating that provider's clinical thought processes may be in agreement with that of the pharmacists.
- Investigators found minimal need to adjust i-Vent coding or to retrain pharmacists on appropriate use. This suggests that pharmacist training on use of the system has been adequate.

Limitations

- While coding required minimal adjustments, it is still possible that a pharmacist coded an intervention as one type i-Vent while it was more applicable as another.
- If an intervention may have applied to multiple i-Vents, pharmacists were required to identify a primary reason for their recommendation. This subjective decision-making was pharmacist-specific and does risk coding bias.

Conclusions

- Patients enrolling in PACE programs are often medically complex and stand to benefit from medication review by a pharmacist.
- Pharmacists make quantifiable interventions that contribute to transition into a Program of All-include Care for the Elderly.
- The most common interventions completed at enrollment were therapy optimization, drug discontinuation, and formulary interchanges.
- The recommendations most accepted at two-month follow-up were related to therapy optimization.

Next Steps

- An evaluation of the financial impact these interventions have on the PACE program.
- Analysis of the interventions and recommendations a pharmacist makes every month on participants that are already enrolled with the PACE program.

References

- PACE by the Numbers. National PACE Association. www.npaonline.org.
- Mekonnen AB, McLachlan AJ, Brien JA. Effectiveness of pharmacist-led medication reconciliation programmes on clinical outcomes at hospital transitions: a systematic review and meta-analysis. *BMJ Open*. 2016;6(2):e010003. doi:10.1136/bmjopen-2015-010003.
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