

Identifying pharmacy characteristics associated with effective implementation of a Medicaid community pharmacy care management intervention

Kea Turner¹, PhD, Justin Trogdon¹, PhD, Morris Weinberger¹, PhD, Angela Stover¹, PhD, Stefanie Ferreri², PharmD, Chelsea Renfro³, PharmD, Joel Farley⁴, PhD, Michael Patti², Neepa Ray², MS, Troy Trygstad⁵, PharmD, PhD, Christopher M. Shea¹, PhD.

1. UNC Gillings School of Global Public Health, 2. UNC Eshleman School of Pharmacy, 3. University of Tennessee Health Science Center, 4. University of Minnesota College of Pharmacy, 5. Community Care of North Carolina

Background

- More than 250 NC community pharmacies are participating in a pharmacy care management network (NC-CPESN).
- Pharmacies in the network offer enhanced services, such as a comprehensive medication reviews (CMR), and coordinate care with other providers.
- Few studies have examined the organizational factors that contribute to successful implementation of pharmacy care management interventions.
- Effective implementation is driven by an organization's implementation climate or the extent to which an intervention is rewarded, supported, and expected in a pharmacy.
- Implementation effectiveness is influenced by innovation-values fit or employees perceptions about how well an intervention aligns with the pharmacy's values.

Objective

- To identify pharmacy characteristics associated with effective implementation of a Medicaid community pharmacy care management intervention.

Methods

- We conducted bivariate analyses to compare the sample characteristics between implementers (completed ≥ 1 CMR during 2016 for high-risk patients) and non-implementers (no completed CMR during 2016 for high-risk patients).
- We conducted a multivariate hurdle regression to model the likelihood that a pharmacy completed a CMR during 2016 for high-risk patients (implementation) and to model how many CMRs were delivered during 2016 to high-risk patients (program reach).

Table 1. Pharmacy characteristics associated with effective implementation

Characteristics	Descriptive statistics Mean (SD) or %	Equation 1: Implementation AME ^{a,b} (SE)	Equation 2: Program Reach AME ^a (SE)
Key independent variables			
Implementation climate	8.37 (5.087)	2.65 (1.85 X 10 ³)***	5.05 (1.5)**
Innovation-values fit	12.51 (3.231)	2.17 (1.041 X 10 ²)*	11.79 (3.170)***
Patient needs and resources			
Rural location	23.56	-0.77 (0.016)	-12.81 (4.658)**
Clinical factors	35.08 (29.8)	-0.04 (3 X 10 ⁴)	-0.14 (0.11)
Social factors	45.01 (31.8)	-0.06 (3 X 10 ⁴)	-0.10 (0.10)
340B participation	36.76	5.70 (3.50 X 10 ²)*	12.80 (5.760)*
Proportion of high-risk patients	0.40 (0.16)	0.00 (0.00)*	—
Log of high-risk patients	—	—	(exposure)
Available resources			
Clinical pharmacist	19.37	9.86 (4.75 X 10 ²)*	32.33 (10.670)***
Total number of staff	12.30 (7.525)	-0.31 (2.6 X 10 ³)	-1.98 (0.550)***
Pharmacy student or resident	21.99	6.86 (6.37 X 10 ²)	14.55 (7.273)
Access to knowledge and information			
Experience with NC-CPESN (months)	31.38 (8.249)	0.43 (1.3 X 10 ³)**	1.57 (0.610)***
Past performance with NC-CPESN	0.02 (0.0)	0.46 (1.3 X 10 ²)***	0.10 (0.031)***
Medicare Part D MTM	86.39	18.73 (6.246 X 10 ²)**	28.05 (13.83)*
Structural characteristics			
Independent pharmacy	43.46	4.14 (2.02 X 10 ²)*	0.43 (5.6)
Low prescription volume	34.55	1.08 (0.032)	7.23 (7.21)
Established pharmacy	30.77	2.02 (0.015)	4.14 (7.46)
Alpha		—	0.56 (7.08 X 10 ²)**
Constant		-21.04 (4.79)***	-14.03 (1.383)***
Observations		180	104

Significance of hurdle regression: * p<0.05, ** p<0.01, *** p<0.001, a. AME, average marginal effect, b. Effect sizes for equation 1 model are in percentage points; for example, 9.86 for presence of clinical pharmacist indicates that the probability of implementing NC-CPESN was 9.86 percentage points higher for pharmacies that have a clinical pharmacist.

Results

From the bivariate analyses, we found that implementers had:

- A significantly higher mean implementation climate and innovation-values fit score
- Were more likely to have a clinical pharmacist on staff
- Were more likely to participate in the Medicare Part D Medication Therapy Management program

From the hurdle regression, we found that the following factors were positively associated with implementation and program reach:

- Implementation climate and innovation-values fit score
- Having a clinical pharmacist on staff
- Participation in Medicare Part D Medication Therapy Management and 340B Drug Pricing Program

Implications

- Community pharmacies should develop strategies, such as rewarding and recognizing staff, to strengthen implementation climate for pharmacy care management.
- Community pharmacies should also develop strategies for strengthening innovation-values fit, such as leadership communication of how pharmacy care management programs fit with the pharmacy's mission.
- Community pharmacies' prior experience with medication therapy management may positively affect implementation of pharmacy care management programs.

Funding Opportunity Notice: The project described was supported by Funding Opportunity Number 1C12013003897 from the U.S Department of Health and Human Services, Centers for Medicare & Medicaid Services and a grant from the Community Pharmacy Foundation (71560). **General Disclaimer:** The contents provided are solely the responsibility of the authors and do not necessarily represent the official views of HHS or any of its agencies.

Author Contact Information: Kea Turner, keat@email.unc.edu