

# Community Pharmacists' Impact on Health Care Spending

The US spends more on healthcare than any other nation. Despite this, the US lags behind other nations on basic measures of healthcare quality. Costs in the US healthcare system are far too high compared to healthcare system performance. This imbalance drives value-based healthcare reform efforts.

A primary driver of costs is care for patients with multiple chronic conditions. These patients rely heavily on medications to treat and prevent illness, and suboptimal medication use has been estimated to cost the healthcare system more than \$200 annually. Pharmacists, through their roles as medication experts, can work with patients to optimize medications, improve healthcare outcomes, and reduce healthcare spending.

There are two types of evidence-support cost saving community pharmacist interventions. The first involves comprehensive, coordinated medication management services that take place over a 30-60 minute period, typically during a scheduled pharmacy visit.<sup>1-8</sup> The second involves a screening and brief intervention targeted at improving medication adherence.<sup>9</sup> There are many other studies of pharmacists' impact on health outcomes, but this narrative review focuses on these nine studies which estimate pharmacists' impact on healthcare spending.

## **Savings from Comprehensive Community Pharmacy Services**

Studies reporting economic outcomes of comprehensive interventions by community pharmacists can be divided into three subgroups: studies estimating pharmacists' impact relative to cost projections,<sup>1-4</sup> studies estimating pharmacists' impact relative to baseline spending,<sup>6,7</sup> and studies with a statistical comparison group.<sup>8</sup> The validity of these methods varies. Studies relying on cost projections often make strong assumptions as to what spending would be absent pharmacist intervention. Statistical comparisons require fewer assumptions and has greater validity. Research is underway to estimate savings from the North Carolina community pharmacy enhanced services network (CPESN (SM)) project using statistical comparisons.<sup>8</sup>

All studies of comprehensive pharmacist interventions included in this review found that pharmacists were successful in achieving clinical aims for enrolled patients and reducing per-person, per-year (PPPY) healthcare spending. Estimates of savings in the first program year range from \$69 PPPY<sup>5</sup> to \$1,828 PPPY<sup>6</sup> (Table 1). Initial PPPY estimates for savings from comprehensive pharmacist interventions in the NC CPESN range from \$740.70 to \$1,283.88 ( $p < 0.01$ ).<sup>8</sup>

## **Savings from Screening and Brief Interventions**

In addition to comprehensive pharmacist interventions, savings have also been demonstrated from an adherence-focused study testing a screening and brief intervention model.<sup>9</sup> For patients with elevated clinical risk or risk for medication nonadherence, pharmacists engaged in a two to five minute, motivational interviewing-based consultation to encourage adherence. The intervention was successful at improving adherence, and significantly reduced PPPY healthcare spending for patients taking oral antidiabetic medications (\$341,  $p < 0.01$ ) and statins (\$241,  $p < 0.05$ ).

## **Conclusion**

Evidence suggests that, when given the right incentives and opportunities, both comprehensive and brief interventions by community pharmacists can reduce healthcare spending. Savings are observed for patients with a diverse set of conditions, including diabetes, hyperlipidemia, hypertension, asthma, and depression, as well as clinically complex patients with elevated health-related risk.



**Table 1. Healthcare Savings from Pharmacist Interventions**

Study	Intervention	Targeted Population/Condition	PPPY Savings Estimate	Statistical Significance
Fera, Bluml, Ellis <sup>1</sup>	Comprehensive	Diabetes	\$1,079	Not calculable†
Finley, Bluml, Bunting, Kiser <sup>2</sup>	Comprehensive	Depression	\$873	Not calculable†
Garrett, Bluml <sup>3</sup>	Comprehensive	Diabetes	\$918	Not calculable†
Bunting, Cranor <sup>4</sup>	Comprehensive	Asthma	\$725	No
Bunting, Smith, Sutherland <sup>5</sup>	Comprehensive	Hypertension and Hyperlipidemia	\$69	No
Cranor, Bunting, Christensen <sup>6</sup>	Comprehensive	Diabetes	\$1,828	No
Cranor, Christensen <sup>7</sup>	Comprehensive	Diabetes	\$984	No
Urlick, Farley <sup>8</sup>	Comprehensive	Clinically complex with elevated risk	\$740.70- \$1,283.88	p<0.01
Pringle, Boyer, Conklin, McCullough, Aldridge <sup>9</sup>	Brief	Elevated risk/ non-adherent	CCB: \$ -21 OAM: \$341 β-blocker: \$19 Statin: \$241 RASA: \$91	OAM: p<0.01 statin: p<0.05

PPPY: Per-patient, per-year; CCB: Calcium-channel blockers; OAM: oral antidiabetic medications, RASA: renin-angiotensin system antagonists

†Projection method does not support traditional statistical tests of significance

**References**

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