



Pharmacist on the Care Team

Patient Safety and Savings Brief



The role of the pharmacist has evolved beyond dispensing medication into active participation in disease management and prevention. By including pharmacists on the care team, published evidence and health system experience consistently demonstrate that mortality is reduced, disease outcomes improve, healthcare costs are reduced for high-risk patients, hospital readmission rates are reduced and patients are more satisfied with their healthcare. This evidence has been demonstrated in a broad range of conditions including cardiovascular diseases, diabetes management, asthma/COPD, oncology, and psychiatry¹.

A Need for Improved Medication Management

The cost of illness and death resulting from nonoptimized medication therapy reached \$528.4 billion, equivalent to 16% of total U.S. health care expenditure, in 2016². A pharmacist on the care team can help to optimize medication therapy outcomes and reduce cost.

Recognition of Pharmacists on the Clinical Care Team

The California Department of Public Health, U.S. Surgeon General, CDC, and Agency for Healthcare Research and Quality (AHRQ) all support the value of pharmacist on the care team interventions for proven improved quality of care and high return on investment^{1,3,4}

Five Recent Studies Bolster Evidence for Clinical and Economic Benefits of Adding Pharmacist on the Care Team

Pharmacists Working in Los Angeles Barbershops Improved Hypertension (HTN) Control (Cedars-Sinai, California, 2018)⁵

In a 2018 published NIH-funded study, a much larger percentage of patients who had their medications managed by a pharmacist in their barbershop achieved HTN control compared to those for whom the barber encouraged lifestyle modifications and regular doctor appointments. The difference in systolic blood pressure between pharmacist-managed patients and usual care was 21mmHg.

Patients with Uncontrolled Hypertension	Intervention Group	Control Group*
Hypertension Controlled at 6 months	118 (89.4%)	55 (32.2%)

(New England Journal of Medicine, 2018) * p < 0.001

Mortality Rate Declined Dramatically for Recently Hospitalized Coronary Artery Disease Patients (Kaiser Permanente, Colorado, 2007)⁸

CAD patients receiving comprehensive cardiac care from a collaborative practice of pharmacists and nurses soon after hospital discharge were **89% less likely to die** as compared to patients not enrolled in the program.

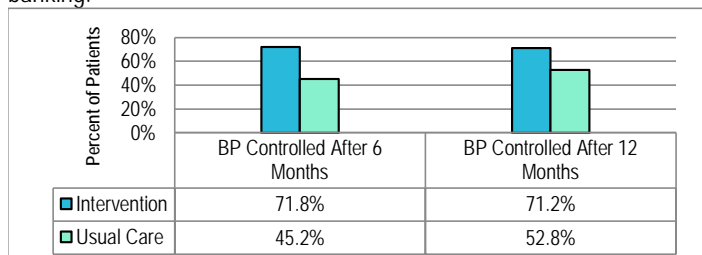
Unadjusted Mortality by Comprehensive Cardiac Care Cohort⁸

Cardiac Care Cohort	Event Free	All-Cause Death
Early Comprehensive Cardiac Care	1094 (67.1%)	76 (4.7%)
No Comprehensive Cardiac Care	692 (44.0%)	737(46.9%)

(Pharmacotherapy, 2007)

Home Blood Pressure (BP) Telemonitoring and Pharmacist Management (HealthPartners Medical Group of Minnesota, 2013)^{6,7}

Home BP telemonitors wirelessly transmitted patient measurements to clinic-based pharmacists, who then adjusted hypertensive therapy under a collaborative care agreement with physicians. This modern model of making hypertension management accessible and convenient was touted by a JAMA editorial board in 2013 as *"something patients, clinicians, and policy makers can take to the bank"*, like ATMs are for banking.



Statewide Program Reduced Hospitalizations and Avoided Millions in Cost for Older Adults (Center for Medicare & Medicaid Innovation [CMMI] Project in Hawaii, 2016)⁹

Medication management services provided by specially trained hospital and community pharmacists were associated with:

- 36% reduction in the medication-related hospitalization rate
- \$6.6 million of avoided costs compared to the \$1.8 million of program cost: a **\$2.61:1 return on investment.**

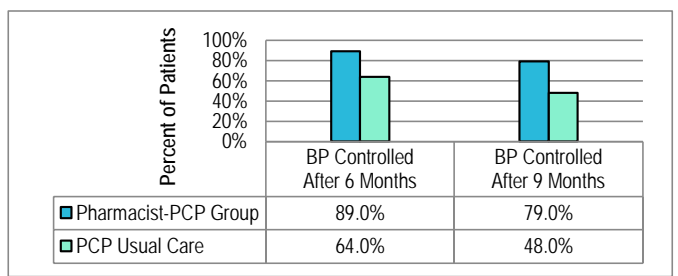
Insurer Based Transition of Care Program Reduced Hospital Readmissions for High Risk Patients (CVS Health, 2016)¹⁰

Recently hospitalized patients participating in a post-discharge pharmacist medication reconciliation program had a **50% relative risk reduction** (11% absolute risk reduction) for hospital readmission within 30 days of discharge. The program more than paid for itself with **savings of \$2 for every \$1 spent.**

Right Care Initiative Pharmacy Collaboration— University of California NIH Demonstration Project:

Improved BP Control and Fewer PCP Visits in a Pharmacist-Primary Care Physician (PCP) Collaborative Practice¹¹

Drug therapy problem identified for almost 50% of patients at first pharmacist visit. Larger percentage of patients receiving care in the pharmacist-PCP collaborative practice had their BP controlled and on average had two fewer PCP visits. (UCLA School of Medicine, UCSD School of Pharmacy)

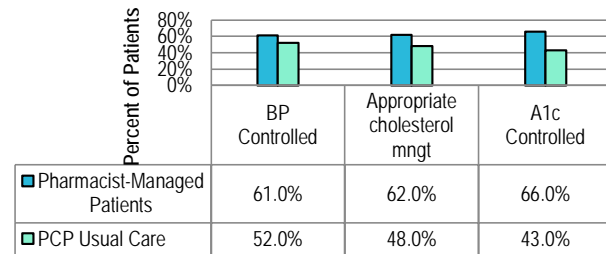


*These data are for patients continuing to see the pharmacist through 9 months.

Additional Evidence Supporting Pharmacy Care

Cardiovascular and Diabetes Outcomes Improve for High Risk Patients – University of Southern California (CMMI Project)

Pharmacists providing Comprehensive Medication Management (CMM) for ~6,000 high-risk patients improved blood pressure, cholesterol management, and A1c significantly more than a propensity score-matched usual care cohort. Patient and physician satisfaction were extremely high (manuscript in preparation, 2018)



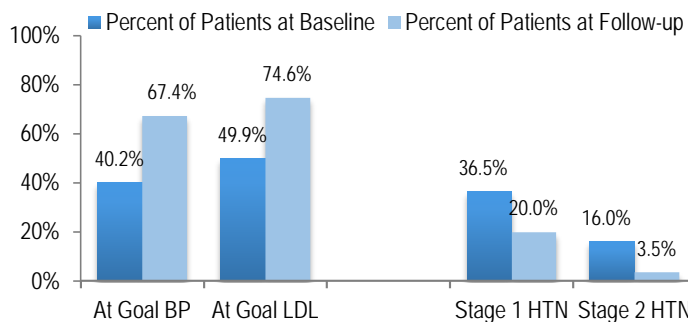
Large Employer Cardiovascular and Diabetes Program Improved Patient Health and Reduced Costs: The Asheville Project (City of Asheville, NC)

The Asheville quasi-experimental, longitudinal cohort studies provided early evidence of pharmacist on care team benefits.

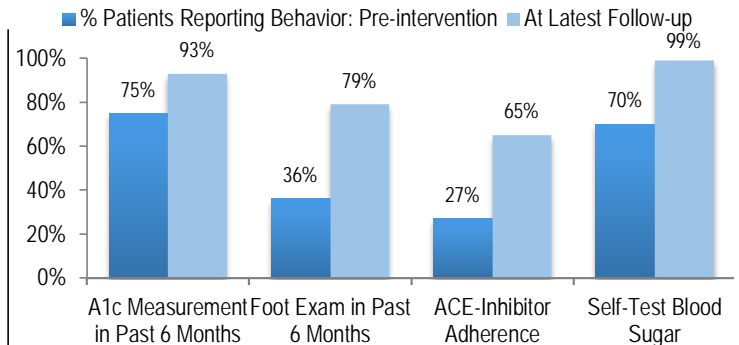
Asheville Cardiovascular (CV) Events and Costs:

Category	Before	After
Rate of CV events	77 per 1,000	38 per 1,000
CV-related medical costs	\$1,362 PPPY	\$734 PPPY

Outcomes for Cardiovascular Pharmacy Management from Asheville Project¹²



Outcomes for Diabetes Pharmacy Management from Asheville Project¹³



Typical “Pharmacist on the Care Team” Services

- 60-minute initial patient interview and counseling session (in-person or telephone) and 20-30 minute follow up sessions
- Comprehensive review of lab results and medications (including over-the-counter medications, supplements and herbal remedies)
- Point of care testing (e.g., blood sugar, blood pressure, blood thinner monitoring), vital sign measurement, depression screening
- Assessment of patients to monitor medication efficacy and safety
- Determination of drug interactions, how to improve medication therapy, and cost savings alternatives
- Interactive communication with physician and other members of the healthcare team (optimally through the electronic medical record)

Questions for a Pharmacist

- Is the medication selection and dose appropriate given the patient’s age or other conditions and medications?
- Should medication therapy changes be considered that might improve patient adherence or address side effects?
- What time of day should patients take medications?
- Are all prescribed medications necessary and at optimum dosage?
- Are there additional medications that the patient should be taking?
- With what should (or should not) a medication be taken?
- Are less expensive, equivalent medications available?

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