

# Community pharmacist intervention boosts drug adherence, reduces health-care costs

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Community pharmacists can dramatically help their patients stick to their prescription regimens, according to a new study led by researchers at the University of Pittsburgh School of Pharmacy. The findings, reported today in *Health Affairs*, suggest also that greater adherence to medications can lead to a reduction in emergency room visits and hospital admissions, thereby lowering health care costs for a variety of chronic conditions including diabetes and asthma.

About 70 percent of all Medicare patients get their prescriptions filled at neighborhood drug stores, but pharmacists can do more for patients than just prepare medications, said lead investigator Janice Pringle, Ph.D., associate professor and director of the Program Evaluation and Research Unit (PERU) at Pitt's School of Pharmacy. She noted their training, knowledge and community accessibility perhaps makes them the ideal health professionals to help people learn how and why to take their medications.

"This untapped resource could be harnessed and used to improve public health and reduce overall [health care costs](#)," Dr. Pringle noted. "If people took their medications as prescribed, diabetes would not evolve and worsen, blood pressure would normalize, cholesterol would be reduced dramatically, and the risk for severe health problems, such as heart attack or stroke, would be reduced. Patients would live longer and probably enjoy a higher quality of life."

For the study, dubbed the Pennsylvania Project, 283 [community](#)

[pharmacists](#) were trained at short workshops by PERU staff to ask customers a few quick questions about [medication adherence](#) using established survey tools. They also were taught to have a brief dialog with patients whose screening scores indicated they were at risk of not taking their medications as prescribed by their doctors. The conversation might include questions and reassurances about side effects or to request that the patient talk to the pharmacist after taking the medication for a little while to report how they were feeling.

During 2011, 29,042 people had prescriptions filled at 107 Rite Aid pharmacies that implemented the screening and brief intervention approach (SBI) and 30,454 people who went to 111 "control" pharmacies that didn't use SBI.

The research team then reviewed insurance claims data to evaluate medication adherence with a measure called "Proportion of Days Covered" or PDC. A PDC of 80 percent, meaning the medication was taken for at least 80 percent of expected period, is considered to be the minimal medication dose needed to achieve the desired clinical outcome. PDC80 values were calculated for both the intervention year and for 2010, the year prior to SBI implementation.

For the five classes of common medications the researchers reviewed, PDC80 rates increased in the SBI group during the intervention compared to the control group, ranging from 3.1 percent for beta blockers to treat high blood pressure to 4.8 percent for oral diabetes drugs. About 75 percent of the net improvement was due to patients who were at high risk for poor medication adherence achieving the PDC80 benchmark after the intervention. Health care costs dropped by \$341 annually per person for SBI patients taking oral diabetes drugs and by \$241 for SBI patients taking statins to lower cholesterol.

"The cost savings demonstrated by the Pennsylvania Project should draw

the attention of many payers to the value of leveraging pharmacists in the community where their members live to improve health and wellness and reduce overall health care costs," said study co-author Jesse McCullough, Pharm.D., director of field clinical services at Rite Aid Corp. "This is another area where the value of the pharmacist to the [health care](#) system is demonstrated."

"High quality medical care is a 'team sport' involving physicians and other providers, nurses, care managers, health plans and well trained pharmacists," said Michael Madden, M.D., vice president and chief medical officer at Gateway Health Plan, which provided pharmacy claims data for the study. "Improving medication adherence rates improves quality, public health and saves money, and this study demonstrates the value pharmacists can add."

"The Pennsylvania Project demonstrated that realizing untapped clinical performance value from a network of pharmacies is as much about the ability of a health plan to foster a supportive environment as it is about the ability of a pharmacy to execute an improvement effort," said study co-author Mark Conklin, Pharm.D., vice president at Pharmacy Quality Solutions. "The relationship between the two entities, based on shared objectives and continuous learning, is the key ingredient."

Each SBI pharmacy also received monthly PDC-measure feedback reports through CECity's cloud-based performance management platform that allowed pharmacists to gauge their performance relative to peers and helped them identify their population of patients at risk for non-adherence.

"The Pennsylvania Project is a perfect example of how a continuous learning [health](#) system model can be developed and scaled to improve quality and decrease the cost of patient care," said study co-author Annette Boyer, R.Ph., vice president of business development at CECity.

Provided by University of Pittsburgh Schools of the Health Sciences

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