Community Pharmacy and Blood Pressure Control

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Widespread, effective identification and management of uncontrolled hypertension remains elusive, undermining our ability to reduce the impact of stroke and heart disease. The statistics are widely appreciated: roughly 30% of North Americans have hypertension and almost half are uncontrolled. Nearly 1,000 people a day die from complications attributed to hypertension, and direct and indirect costs amount to $46 billion a year in the United States alone. Effective management of blood pressure for the 70 million adults in the US who currently have hypertension would clearly overwhelm our existing primary care system. There are already roughly 39 million physician office visits for essential hypertension per year.\(^2\)

Fortunately, help is available. Community pharmacies are one of the most widely available health care resources in North America.\(^3\) A substantial body of research has been emerged over the last 20 years documenting the effectiveness of team-based approaches that incorporate pharmacists. Indeed, these have been summarized in several systematic reviews and meta-analyses including the recent Community Guide prepared for the US Preventive Services Task Force.\(^4-6\) Across the variety of interventions tested, the results have generated a rather consistent and compelling pattern of significant reductions in systolic and diastolic blood pressures when pharmacists are deployed to help manage blood pressure. The vast majority of these randomized clinical trials, however, were designed and conducted in medical clinics, including academic medical centers, as opposed to community pharmacies. The question of how transportable these interventions are into the community where the majority of pharmacists and people with hypertension interact is less well described and evaluated. The Community Guide noted three community pharmacy-based interventions two of which were conducted in Canada and the third in the US.\(^7-9\) Internationally, there are roughly sixteen RCTs of community pharmacist interventions, and their results are consistent with the clinic based approaches.\(^5\)
Our group more recently demonstrated that community pharmacists can indeed improve blood pressure control as well as adherence in the US. These results were particularly significant as the patient population consisted exclusively of African-Americans with uncontrolled hypertension. Another chain pharmacy-based program also reported positive effects on blood pressure control and adherence, and the Asheville Project, a community collaboration between insurance plans, hospitals, and community pharmacists, likewise demonstrated reductions in blood pressure, though that was not their only targeted outcome.

In this issue of Circulation, we have the presentation of another Canadian study of the impact that pharmacists can have on blood pressure management. This study differs significantly from prior studies in that, since 2007, pharmacists in Alberta, Canada have been able to receive independent prescribing authority after meeting a series of requirements. While pharmacists have been able to prescribe under physician oversight in several of the aforementioned clinic-based studies, this appears to be the first study where community pharmacists were allowed to prescribe without direct physician review. Patients were randomized to usual care (essentially written information) or pharmacist-driven assessment, education, laboratory monitoring, and monthly follow-up over a 6 month period. Pharmacists were able to prescribe and titrate drug therapy as needed with the patient’s primary care physician notified of assessments and therapeutic changes. Participating pharmacists were originally recruited from rural areas, though enrollment was expanded to urban areas. The majority of participating pharmacists were in community practices (20 pharmacists) though eight pharmacists practiced in clinics (hospital outpatient and primary care settings). The details of the results are described in the accompanying manuscript, but let it suffice to say that the intervention was effective with reductions in systolic and diastolic blood pressures comparable to prior research.
While there is variation in effectiveness across aspects of interventions to improve blood pressure management, the signal remains remarkably consistent. Pharmacists are able to effectively engage with other health care providers and patients to achieve better blood pressure control. The more important question is how we translate these findings nationally (or actually internationally) into widespread practice. The call for pharmacist involvement in hypertension was documented over 40 years ago, when two physicians referred their patients to a pharmacist for active management at a health center.\textsuperscript{14} The pharmacotherapy arsenal was much smaller (chlorothiazide, reserpine, methyldopa, guanethidine, and hydralazine) at the time, but these pioneers recognized the potential benefit to be played by pharmacists. Forty years on, why are we still documenting the degree of benefit rather than focusing on deploying this effective technology?

What we need to move forward is effective approaches to get pharmacists, particularly community pharmacists, to actively participate in hypertension management. Here there is less empiric research but a critical need to understand how to scale up team care.\textsuperscript{6} The American Pharmacist Association (APhA) is encouraging its membership to engage in the Million Hearts CVD Risk Reduction Model,\textsuperscript{15} where pharmacists are considered important team members. The Centers for Disease Control has a guide to help pharmacists develop establish agreements with physicians to expand their active participation in patient care.\textsuperscript{16} The reach and impact of these campaigns must be followed.

Walk into nearly any community pharmacy in North America, and you will find an automated blood pressure machine, usually parked in sight of the prescription department. Nearly 61\% of the 286,400 pharmacists in the US work in a community pharmacy setting.\textsuperscript{17} There is tremendous scale here if pharmacists will step out, review the numbers with the patient,
and follow-up on reducing our hypertension burden. What we really need to know is how to make this happen.  

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References:


9. Zillich AJ. Hypertension outcomes through blood pressure monitoring and evaluation by


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