

## 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:  $\approx 30\%$  of North Americans have hypertension, and almost half of this hypertension is uncontrolled. Nearly 1000 people a day die of complications attributed to hypertension, and direct and indirect costs amount to \$46 billion a year in the United States alone.<sup>1</sup> Effective management of blood pressure for the 70 million adults in the United States who currently have hypertension would clearly overwhelm our existing primary care system. There are already  $\approx 39$  million physician office visits for essential hypertension per year.<sup>2</sup>

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Fortunately, help is available. Community pharmacies are one of the most widely available healthcare resources in North America.<sup>3</sup> A substantial body of research has been emerged over the past 20 years documenting the effectiveness of team-based approaches that incorporate pharmacists. Indeed, these approaches have been summarized in several systematic reviews and meta-analyses including the recent Community Guide prepared for the US Preventive Services Task Force.<sup>4-6</sup> 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 3 community pharmacy-based interventions, 2 of which were conducted in Canada and the third was conducted in the United States.<sup>7-9</sup> Internationally, there have been  $\approx 16$  randomized, controlled trials of community pharmacist interventions, and their results are consistent with the clinic-based approaches.<sup>5</sup>

Our group more recently demonstrated that community pharmacists can indeed improve blood pressure control, and adherence, as well, in the United States.<sup>10</sup> These results were

particularly significant because the patient population consisted exclusively of blacks with uncontrolled hypertension. Another chain pharmacy-based program also reported positive effects on blood pressure control and adherence,<sup>11</sup> and the Asheville Project, a community collaboration between insurance plans, hospitals, and community pharmacists, likewise demonstrated reductions in blood pressure, although that was not their only targeted outcome.<sup>12</sup>

In this issue of *Circulation*, we have the presentation of another Canadian study of the impact that pharmacists can have on blood pressure management.<sup>13</sup> This study differs significantly from previous studies in that, since 2007, pharmacists in Alberta, Canada, have been able to receive independent prescribing authority after meeting a series of requirements. Although 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 randomly assigned 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, although enrollment was expanded to urban areas. The majority of participating pharmacists were in community practices (20 pharmacists), although 8 pharmacists practiced in clinics (hospital outpatient and primary care settings). The details of the results are described in the accompanying article, but let it suffice to say that the intervention was effective with reductions in systolic and diastolic blood pressures comparable to previous research.

Although there is variation in effectiveness across the aspects of interventions to improve blood pressure management,<sup>4</sup> the signal remains remarkably consistent. Pharmacists are able to effectively engage with other healthcare 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  $>40$  years ago, when 2 physicians referred their patients to a pharmacist for active management at a health center.<sup>14</sup> 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

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there is less empirical research but a critical need to understand how to scale up team care.<sup>6</sup> The American Pharmacist Association is encouraging its membership to engage in the Million Hearts CVD Risk Reduction Model,<sup>15</sup> where pharmacists are considered important team members. The Centers for Disease Control and Prevention has a guide to help pharmacists develop and establish agreements with physicians to expand their active participation in patient care.<sup>16</sup> 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 United States work in a community pharmacy setting.<sup>17</sup> 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.<sup>6</sup>

### Disclosures

None.

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