Detection and successful management of arterial hypertension is one of the major success stories of recent decades. Large fractions of those with hypertension in the US population have been identified and successfully treated with antihypertensive medication. Prevention of cardiovascular disease has been achieved. In a recent national survey, it is estimated that ≈80% of those with hypertension are aware of their diagnosis, ≈75% are treated, and ≈51% are controlled on the basis of the Joint National Committee-7 guideline. However, there is little reason to be complacent and lessen the effort to find and treat more of the population.

Management of hypertension and the other widespread cardiovascular risk factors, dyslipidemia and adult diabetes mellitus, has been the province of office- or clinic-based primary care, that is, general internal medicine and family practice. In the United States, primary care medicine has become an endangered species because medical school graduates increasingly seek careers in several medical specialties, hospitalist medicine, and emergency medicine. There is an urgent need to augment and modify traditional primary care for expansion of the national effort in preventive cardiology.

An expanded role for pharmacists to participate in care for hypertensive patients is being explored in several strategies. This effort is international with evidence that it is effective. Many pharmacies are accessible for direct care and can provide services to monitor blood pressure. In the United States, the CVS chain, in particular, has made a major commitment to this effort. However, large group practices often have pharmacists embedded in their systems. In the Collaboration Among Pharmacists and Physicians to Improve Outcomes Now (CAPTION) trial, Carter et al have conducted a randomized clinical trial comparing offices that include collaboration between pharmacists and physicians to offices with pharmacists present, but not involved in collaborative care. Thirty-two primary care offices in 15 states participated; 12 were in the control group, 11 had the collaborative intervention for 9 months, and 9 sustained the intervention for 24 months. The selected primary outcome was control of hypertension, <140/90 mm Hg. The difference for control of hypertension between the intervention and control groups came close, but failed to reach statistical significance. However, at 9 months, systolic and diastolic pressures were significantly lower for the intervention groups reported as mean (95% CI) −6.1 mm Hg (−9.7 to −2.4)/−2.9 mm Hg (−4.9 to −1.0). Of note, in a retrospective calculation using the most recent Joint National Committee-Panel criterion of <150 mm Hg systolic pressure, blood pressure control at 9 and 24 months was significantly higher in the groups with the intervention compared with the nonintervention groups.

Another recent study of pharmacist participation conducted as a retrospective case–control design in the VA system supports the inference that this strategy results in lower pressures and improved control.7

The short-term calculations for cost of care for the 9-month interval have been made for the CAPTION trial and are presented in this issue of Hypertension.8 The total cost per patient was $202.93 higher for the intervention group compared with the control cohort. Cost-effectiveness was calculated as $/reduction in pressure: $33.27/1 mm Hg for systolic pressure and $69.98/1 mm Hg for diastolic pressure. Increased control of hypertension was calculated as $23 per 1% better control. Trends in costs were higher for pharmacist visit time, higher for medications, and lower for physician visit time. No calculations were provided for differences in tests. The costs for visit times for both physicians and pharmacists were based on fee-for-service estimates and did not include costs for supervision time for the physicians or discussion time for the pharmacists. How are these to be compensated?

The current political climate of the United States is not favorable to a strategy that might increase cost of medical care, especially for adult preventive services. However, downstream trends might be more favorable to cost saving or, at least, cost minimization if it can be shown that the increased control of hypertension resulting from collaborative care models reduces fatal and nonfatal stroke, cardiac disease, and renal disease.

Several other models for expanding control of hypertension explore the role of nurse practitioners,9 work site programs,10 and home self-care with telemedicine strategies.11,12 In many of these examples, improved blood pressure control or a reduction in pressure is achieved by the intervention. These are short-term studies. It seems likely that several of these approaches will be suited to specific populations: rural versus urban, low versus higher income, differences in health literacy, and so on. The increasing evidence for home blood pressure monitoring using telemetry with or without...
self-titration is especially appealing because this approach can limit need for the cost and inconvenience of travel to offices or medical home while improving communication. Although cost-effectiveness in terms of $/reduction in blood pressure should be estimated for all of these innovations, the long-term benefit with regard to fatal and nonfatal cardiovascular outcomes remains the paramount issue.

How will any above mentioned strategies support the providers? It seems clear that a fee-for-service system of payment may become obsolete when providers (collaborative teams) must provide so much care that falls outside the traditional visit. Nonface-to-face time on the phone or computer, in supervision, providing advice, or refilling prescriptions dictates the basis for salary models that support patient care whenever needed.

Collaborative care teams centered in pharmacies, classical medical practices, or medical homes together with growing use of web-based communication are evolving for treatment of hypertension. These strategies can also be adapted for more effective and efficient management of diabetes mellitus and lipid disorders. In this way, primary care for preventive cardiology will be delivered by a wider spectrum of healthcare professionals (The Who) in various settings, from offices to pharmacies to home (The Where).

Disclosures
None.

References
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