Letter to the Editor

EVIDENCE OF PHARMACIST CARE TO PREVENT CARDIOVASCULAR DISEASE

We have read with great interest the article by Rear Admiral Scott Giberson, which appeared in the January/February 2013 issue of *Public Health Reports*.¹ The author elegantly discussed the valuable role of the pharmacist in the prevention of coronary heart diseases and chronic care of patients with heart diseases. The author also presented the pharmacist-specific activities related to Million Hearts®, a national initiative to prevent one million heart attacks and strokes in the U.S. during the next five years by implementing proven and effective interventions with the collaboration of health-care professionals, pharmacists, hospitals, communities, and individuals.^{2,3}

We would like to expand the message of Rear Admiral Giberson by underlining the results of two recent systematic reviews and meta-analyses of randomized controlled trials (RCTs) that have evaluated the impact of pharmacist care in the management of cardiovascular disease (CVD) risk factors.^{4,5} In the studies reviewed, the interventions were exclusively conducted by community, hospital, or clinical pharmacists and implemented in collaboration with physicians or nurses among outpatients with hypertension, dyslipidemia, smoking, or obesity;⁴ or implemented among outpa-

tients with diabetes (type 1 and 2).⁵ The studies were primarily conducted in the U.S. and Canada, but also in South America, Asia, Australia, and Europe.

In the first systematic review, we identified 30 RCTs involving 11,765 patients.⁴ Pharmacists intervened in diverse ways, including patient education (counseling about medications, lifestyle, or compliance); feedback to physicians (recommendations regarding medication changes); medication management from medical records or patient interview; measurement of CVD risk factors or reviewing of laboratory results during follow-up; patient-reminder systems including telephone contact, use of website, home visits, or drug adherence aids; and educational intervention for health-care professionals. We found that pharmacist interventions significantly reduced systolic and diastolic blood pressure (BP), total cholesterol, low-density lipoprotein cholesterol, and the risk of smoking⁴ (Table).

In the second systematic review, we analyzed 15 RCTs involving 9,111 participants with diabetes. Frequently conducted pharmacist interventions included medication management (monitoring of drug therapy) and educational interventions to patients (education and counseling about medications and lifestyle). Compared with usual care, pharmacist care was associated with substantial reductions for systolic BP (−6.2 millimeters of mercury [mmHg] [95% confidence interval (CI) −7.8, −4.6]), diastolic BP (−4.5 mmHg [95%

Table. Effect of pharmacist care on cardiovascular risk factors among outpatients with cardiovascular disease in 30 studies conducted in North America, Asia, Australia, and Europe, 1973–2010^a

Risk factors	Studies N	Participants N	Difference between pharmacist care and usual care
			Mean differences or relative risk (95% CI)
Systolic BP (mmHg)	19	10,479	−8.1 (−10.2, −5.9)
Diastolic BP (mmHg)	19	10,479	−3.8 (−5.3, −2.3)
Total cholesterol (mg/dL)	9	1,121	−17.4 (−25.5, −9.2)
LDL cholesterol (mg/dL)	7	924	−13.4 (−23.0, −3.8)
Smoking	2	196	0.77 (0.67, 0.89)

^aAdapted from: Santschi V, Chiolerio A, Burnand B, Colosimo AL, Paradis G. Impact of pharmacist care in the management of cardiovascular disease risk factors: a systematic review and meta-analysis of randomized trials. *Arch Intern Med* 2011;171:1441-53.

CI = confidence interval

BP = blood pressure

mmHg = millimeters of mercury

mg/dL = milligrams per deciliter

LDL = low-density lipoprotein

CI -6.2 , -2.8]), total cholesterol (-15.2 milligrams per deciliter [mg/dL] [95% CI -24.7 , -5.7]), low-density lipoprotein cholesterol (-11.7 mg/dL [95% CI -15.8 , -7.6]), and even body mass index (-0.9 kilograms per meter squared [95% CI -1.7 , -0.1]) (data not shown).⁵

Both reviews provide extensive evidence that pharmacist care—conducted alone or as part of team-based care including physicians, nurses, or other health-care professionals—improves the management of various CVD risk factors among outpatients with or without diabetes. In our opinion, and as mentioned by Zenzano et al,⁶ pharmacists can expand access to care by collaborating in a model of team-based care, especially in the field of prevention. The Million Hearts® campaign is an extraordinary example of multidisciplinary care and an opportunity for pharmacists to play a vital role in managing cardiovascular health and to expand collaboration in team-based care among health-care professionals.²

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