Physician extenders were more cost-effective than usual health care in men with hypercholesterolemia


Objective
To determine whether physician extenders (use of allied health professionals to initiate and maintain patients on diet and drug therapy) using cost-effective drug algorithms could provide effective management for hypercholesterolemia while conserving costs.

Design
2-year randomized controlled trial and cost-effectiveness analysis.

Setting
Veterans Affairs medical center in Wisconsin, USA.

Patients
247 men (mean age 63 y) with low-density lipoprotein (LDL) cholesterol levels > 4.14 mmol/L were included. Exclusion criteria were triglyceride levels > 2.82 mmol/L; thyroid, liver, or kidney abnormalities; severe underlying illness; diabetes; or unwillingness to stop taking lipid-lowering medication for 1 month before study entry.

84% of patients completed the study.

Intervention
127 patients were allocated to a cholesterol treatment program, and 120 were allocated to usual health care provided by a general internist. The cholesterol treatment program included 1) an intensive dietary program given by a registered dietitian who used individual and group counseling and 2) drug therapy, initiated by physician extenders, for patients who failed to achieve their target LDL cholesterol level with diet alone. Drug therapy initially consisted of niacin and was followed by bile acid sequestrants and then by lovastatin if target LDL cholesterol levels were not achieved.

Main cost and outcome measures
LDL cholesterol level, cost of therapy, and cost-effectiveness defined as the cost per unit reduction in LDL cholesterol.

Main results
By 2 years, more patients in the cholesterol treatment program than in the usual health care group were taking cholesterol-lowering drugs (93% vs 61%, P < 0.01). By 2 years, LDL cholesterol levels were reduced by 27% (standard error [SE] 2%) in the cholesterol treatment program and by 14% (SE 2%) in the usual health care group (P < 0.001). Target LDL cholesterol levels were achieved more frequently by patients allocated to the cholesterol treatment program (65% vs 44%, P = 0.002). Total cost per patient was 40% higher in the cholesterol treatment program ($659, SE $43 vs $477, SE $42, P < 0.01), but the cost per mmol reduction in LDL cholesterol level was lower than the cost of usual health care ($758, SE $58 vs $1085, SE $70, P < 0.002). By the end of the study, drug costs accounted for 79% of total costs in the cholesterol treatment program.

Conclusion
Physician extenders using cholesterol treatment algorithms were more costly but more cost-effective than usual health care in men with high levels of low-density lipoprotein cholesterol.

Source of funding: Department of Veterans Affairs.

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*Evid Based Med* 1996 1: 222
doi: 10.1136/ebm.1996.1.222

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