

### **FIBRILLATION IN THE NETHERLANDS: A MODELING APPROACH**

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**OBJECTIVES:** To estimate the direct costs of maintaining normal sinus rhythm (NSR) in patients with atrial fibrillation (AF) with four antiarrhythmic (AA) drugs (sotalol, amiodarone, flecainide, and propafenone) in the Netherlands (NL).

**METHODS:** A Markov model, with a one month cycle length and a one year treatment duration, was used to estimate expected costs of maintaining NSR. An expert panel of cardiologists was interviewed to collect data on the perceived safety and efficacy of the drugs, resource use (inpatient and outpatient visits, tests and procedures) for recurrence of AF, treatment initiation, monitoring, and side effects. Cost data were obtained principally from the Central Organization for Tariffs in Health Care and the National Association of Pharmacists. Costs were estimated separately by drugs and for patients with and without concomitant structural heart disease (SHD), then weighted by the joint distribution of presence or absence of SHD, specific use of a drug in these two populations, and/or market share of AA drugs.

**RESULTS:** The weighted average annual cost of maintaining NSR in an AF patient was US\$2,181.31. Inpatient treatment costs, dominated mainly by costs of symptom recurrence and therapy initiation, ranged from 78% (flecainide) to 92% (sotalol) of total costs. Costs of monitoring and side effects were the highest for amiodarone and sotalol, respectively. Drug costs, ranging from \$60 for sotalol to \$252 for flecainide, were the minor contributors to the total costs. In patients with SHD, annual costs of maintaining NSR were \$2,685 and \$2,505 for sotalol and amiodarone, the two most common drugs in the NL, respectively.

**CONCLUSIONS:** The estimated annual cost of maintaining NSR in patients with AF in the NL is as high as US\$2,685 per patient. Relatively lower AA drug costs are offset by significant medical treatment costs, particularly for inpatient therapy initiation and recurrence of disease symptoms.

### **PCV2**

### **THE COST-EFFECTIVENESS OF CHOLESTEROL- LOWERING TREATMENT IN THE PRIMARY PREVENTION OF CORONARY HEART DISEASE: THE CASE OF A COMPREHENSIVE DIETARY INTERVENTION PROGRAM**

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**OBJECTIVES:** No studies to date have addressed the cost-effectiveness of lifelong dietary treatment when adminis-

tered in "real world" community practice. This study examines whether a comprehensive intervention program to detect and treat, through dietary therapy, hypercholesterolemic patients is a cost-effective approach in the primary prevention of morbidity and mortality from coronary heart disease (CHD).

**METHODS:** I developed a multidimensional model of CHD incidence using results from the Physician-Assisted Cholesterol Education Program (PACE), a prospective randomized trial in rural clinical practice, in combination with multivariate logistic risk functions from the Framingham Heart Study. The cost and health effects of this dietary intervention are projected over a lifetime for patients with known CHD risk factors. Results were also simulated for the pharmacologic treatment of lovastatin taken daily in addition to dietary intervention. Changes in life expectancy, quality-adjusted life expectancy, and incremental cost-effectiveness ratios (\$/QALY), were the primary outcome measures of interest.

**RESULTS:** PACE participants, on average, reduced their total serum cholesterol levels 1.3% (CI 0.43–2.14). Relative to no treatment, men on dietary treatment gained an estimated 4 to 26 days of quality-adjusted life expectancy at an estimated cost-effectiveness of \$14,463 to \$77,574 (\$/QALY), depending on the age of treatment initiation. Women gained an estimated 3 to 19 days with cost-effectiveness ratios from \$49,998 to \$102,574 (\$/QALY). Relative to dietary treatment alone, the cost-effectiveness of the combined diet-plus-lovastatin treatment ranged from \$43,620 to \$49,776 (\$/QALY) in men, and from \$52,996 to \$74,718 (\$/QALY) in women.

**CONCLUSIONS:** Dietary intervention is a relatively cost-effective method of CHD prevention and should remain the preferred treatment option for younger men and women—especially for those initially at highest risk of CHD. Combined diet-plus-lovastatin therapy, however, is the optimal treatment choice for older individuals and for those who experience a reduced quality of life on stringent dietary regimes.

### **PCV3**

### **COSTS OF MAINTAINING NORMAL SINUS RHYTHM IN PATIENTS WITH ATRIAL FIBRILLATION OR FLUTTER IN THE UNITED STATES**

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**OBJECTIVES:** The objective of the study was to estimate the direct costs of maintaining normal sinus rhythm (NSR) in patients with atrial fibrillation or flutter (AF/F) with five antiarrhythmic (AA) agents (amiodarone, flecainide, propafenone, quinidine, sotalol).

**METHODS:** A Markov model was used to estimate the expected costs of maintaining NSR in patients with AF/F using AA therapies. Estimates of the resource utilization (inpatient therapy initiation and monitoring, recurrence,