PURPOSE: To examine the time frame of changes in medical charges after smoking cessation among (1) those with arthritis, allergies, or back pain and (2) those with none of these chronic conditions. DESIGN: Cross-sectional study using smoking status determined in 1996 and 4-year average medical charges measured from 1996 to 1999. SETTING: Nationwide manufacturing corporation (General Motors Corporation). SUBJECTS: A total of 20,332 employees and spouses who completed a health risk appraisal in 1996 were younger than 64 years, were enrolled in indemnity or preferred provider organization health insurance plans during 1996 to 1999, and self-reported no preexisting primary diseases. MEASURES: Participants were categorized according to 1996 self-reported smoking status into six subgroups: current smokers, former smokers by years since cessation (0-4, 5-9, 10-14, and > or = 15 years), and never smokers. Average annual medical charges (1996-1999) among those with chronic conditions (arthritis, allergies, or back pain; N = 11,921) or without chronic conditions (N = 8411) were examined independently. Never smokers in each group were compared to respective smoker and former smoker subgroups. RESULTS: Current smokers and former smokers without chronic conditions who quit fewer than 5 years earlier had higher medical charges compared with never smokers ($2613 and $3356 vs. $2203, respectively). Among those with chronic conditions, current smokers, former smokers who quit 0 to 4 years ago, and former smokers who quit 5 to 9 years ago had higher medical charges than never smokers ($4208, $4027, and $4050 vs. $3108, respectively). CONCLUSIONS: It took approximately 5 years for former smokers without chronic conditions and nearly 10 years for former smokers with chronic conditions to reduce their medical charges to levels close to their respective never smokers. Health promotion practitioners and other decision makers should consider the impact of chronic conditions on the course of medical savings when implementing smoking cessation programs at the worksite.