ASSOCIATION BETWEEN CELLULAR-TELEPHONE CALLS AND MOTOR VEHICLE COLLISIONS

MOTOR vehicle collisions are a leading cause of death in North America; they are the single most frequent cause of death among children and young adults and account for one fatality every 10 minutes.[1-3] During an average year, about 1 person in 50 will be involved in a motor vehicle collision; 1 percent of them will die, 10 percent will be hospitalized, and 25 percent will be temporarily disabled.[4,5] Motor vehicle collisions often injure persons who are otherwise in good health. The causes of motor vehicle collisions are complicated, but error on the part of drivers contributes to over 90 percent of events.[6]

Cellular telephones can be used for placing and receiving telephone calls while in a motor vehicle. North American sales are enormous; for example, in 1995 the number of new subscribers in the United States exceeded the birth rate.[7,8] Many believe that telephones may contribute to collisions by distracting drivers,[9] and a few countries (such as Brazil, Israel, and Australia) have laws against using a cellular telephone while driving. Research with simulators suggests that use of the telephone can impair some aspects of driving performance.[10-14] However, industry-sponsored surveys have found no increased risk associated with car telephones.[15,16]

The most rigorous experimental method for testing the effects of cellular telephones on motor vehicle collisions is to assess outcomes for persons randomly assigned to use or not use the devices, but such a study would be very difficult to perform and possibly unethical. Instead, we used an epidemiolog-