The economic impact of fetal alcohol syndrome (FAS)\(^1\) was measured in 4 US-based studies.\(^2\,5\) Abel and Sokol estimated the economic cost of FAS to the health care system in the United States to be $321 million (US) in 1984, based on an average incidence of 1.9 FAS cases per 1000 live births.\(^2\) The incidence rate was an average, drawn from several prospective and retrospective studies. In 1991, Abel and Sokol again estimated the cost of FAS to the health care system and produced a much lower annual cost estimate of $74.6 million (US), based on an incidence of 0.33 FAS cases per 1000 live births.\(^3\) This conservative estimate was derived entirely from prospective studies, which yield lower estimates of FAS incidence than do retrospective studies, in part because, unlike the retrospective studies, there are no prospective data for Native Americans and other racial or ethnic groups that might face risks of FAS. In addition, the cost of semi-independent supervised support for mildly cognitively disabled patients ages 21 and younger was excluded from the later study, on the grounds that such care was generally required only after age 21. Neither of the Abel and Sokol studies\(^2\,3\) included costs beyond age 21.

Harwood and Napolitano used a societal perspective and generated cost estimates of $1.95, $3.2, and $9.69 billion (US) using alternative FAS incidence rates of 1.0, 1.67, and 5.0 per 1000 live births in the United States.\(^4\) Incidence was based on a review of prospective studies. Costs included estimates of the value of productivity lost as a result of cognitive disabilities, as well as the cost of treatment and residential care for patients of all ages with FAS.

Finally, Rice et al estimated the cost of FAS to the health care system and placed the annual cost of treating the birth defects associated with FAS in the United States at $1.6 billion (US), based on an incidence of 1.9 FAS cases per 1000 live births.\(^5\) The incidence was based on a review of several prospective and retrospective studies. Components of costs included the cost of care for FAS-related birth defects and cognitive disability, as well as the cost of residential care for patients older than 21 years. The cost of residential care accounted for 80% of the total estimate.

Past estimates of costs have been strictly limited to FAS and do not reflect costs of the full range of FASD, which is more common. Thus, these results likely underestimate the economic burden associated with prenatal exposure to alcohol.

In a cross-sectional survey, 148 parents of children with FASD aged 1 to 21 years, living in urban and rural communities throughout Canada, were recruited.\(^1\) Participants completed the Health Services Utilization Inventory. Key cost components were elicited: direct costs (ie, medical, education, and social services), out-of-pocket costs, and indirect costs (ie, productivity losses). Total average expenditures per child were calculated by summing the costs for each child in each cost component and dividing by the sample size. Costs were extrapolated to 1 year. A stepwise multiple regression analysis was used to identify important determinants of costs and to calculate the adjusted annual costs associated with FASD.

The total adjusted annual expenditure per child with FASD was $14,342 (95% confidence interval [CI], $12,986-$15,698). Severity of the child's condition, age...
of the child, and geographical setting were important determinants of costs \((P<.001)\). Cost of FASD annually to Canada of those 1 to 21 years old was $344,208,000 (95% CI, $311,664,000-$376,752,000).

The survey results demonstrated the cost of FASD is profound. It is an estimated $4 billion a year based on a rate of 1 FASD cases in 100 pregnancies.

References