BACKGROUND: As about 20 % of pregnant women smoke, 137,000 of the 685,795 neonates delivered in Germany in 2005 have been affected by smoking during pregnancy. Caring for neonates born prematurely because of smoking results in additional costs. We have attempted to estimate these costs. MATERIAL AND METHODS: Data of 1,815,318 pregnancies were collected from the German perinatal statistics of 1995-1997. In 876,645 cases there was information regarding smoking. Of these, 699,134 pregnant women were non-smokers and 177,511 were smokers. To determine the number of preterm births due to smoking, we compared the distribution of the duration of pregnancy of the non-smoking cohort to that of the smoking cohort. From the difference between this and the actual distribution of the duration of pregnancy among smokers we determined the number of additional preterm births caused by smoking. For the analysis of the associated costs we used the actual costs of care and daily rates used in neonatology. RESULTS: For 2002 we estimate 43 million Euros of additional costs due to neonates born prematurely because of smoking. CONCLUSIONS: We present a rough estimate of the additional health care costs for neonates because of smoking. Costs were estimated only with regard to premature deliveries. Other effects of smoking during pregnancy on
neonatal health were not considered. More detailed cost analyses will likely reveal even higher costs.