

## Sensitivity Analysis

For external adjustment on the basis of previous studies of depression and suicide in youths (1, 2), the method of Green et al. (3) for the sensitivity analysis was used to quantify the confounding effect of depression on our estimates of the association between asthma and suicide mortality.

The prevalence of depression in the asthma group and non-asthma group as well as the odds ratio for the association between depression and suicide among young people were inferred from previous studies for external adjustment. A previous study (2) of subjects with ages similar to those in our study showed the prevalence of any depressive disorder in an asthma group to be 7.3%, while in a no-asthma group, the prevalence was 2.3%. Another study (1) estimated the depression-suicide odds ratio among youths with ages similar to those of our study was 5.69.

The crude odds ratio of suicide in the current asthma group with relative to the no asthma group was 2.55 and after external adjustment, a depression-adjusted odds ratio of 2.11 was obtained with little change.

Further analysis was performed using an extreme hypothetical scenario with depression prevalence of 20% for the current asthma group and 10% for the no asthma group, and a depression-suicide odds ratio of 10. The depression-adjusted odds ratio for the association between asthma and suicide mortality was 1.73, without changing the direction of the association.

## References

1. Hallfors DD, Waller MW, Ford CA, Halpern CT, Brodish PH, Iritani B: Adolescent depression and suicide risk: association with sex and drug behavior. *Am J Prev Med* 2004; 27:224–231
2. Ortega AN, McQuaid EL, Canino G, Goodwin RD, Fritz GK: Comorbidity of asthma and anxiety and depression in Puerto Rican children. *Psychosomatics* 2004; 45:93–99
3. Greenland S, Lash TL: Analysis of unmeasured confounders – external adjustment, in *Modern Epidemiology*, 3rd ed. Edited by Rothman KJ, Greenland S, Lash TL. Philadelphia, Lippincott Williams & Wilkins, 2008, pp 348–351