

### Sudden Unexpected Death: Variability in Reporting Between the United States and Germany

ICD-10 coding was developed in order to provide uniform classification of disease and to accurately guide the appropriate allotment of resources towards prevention. However, country-specific modifications of the manual and differences in methodologies can result in inconsistent reporting of conditions such as sudden unexpected death (SUD). To elucidate the specific areas of inconsistencies, we examined the distribution of ICD-10 codes of SUD across two Western industrialized countries.

Death certificates in Germany and the US for 2011 were compared by ICD-10 categories for SUD. These codes were designed to classify the order, type, and association of events resulting in death. Subjects between 20 and 64 years old whose deaths were attributed to diseases of the circulatory system (I05-I09, I11, I20-I52) and unknown causes of death (R96-R99) were included. In 2011, among those aged 20 to 64 years, there were 133,808 deaths (20.6% SUD) in Germany and 639,276 deaths (19.5% SUD) in the US. However, the reported causes of these deaths differ between the two countries. In Germany, reports of unknown cause of death were 5 times higher than in the US (see Figure). In the US, there was a higher reported incidence of death attributed to hypertensive or atherosclerotic disease.

Germany and the US have similar rates of SUD. Underreporting of unknown causes of death and overreporting of hypertensive and atherosclerotic disease in the US appear to account for most of the difference in the distribution of the etiologies of SUD between Germany and the US. Variability in application of ICD-10 codes may impair our understanding of the diverse risk factors for sudden death.

