Measuring accuracy of discharge diagnoses for a region-wide surveillance of hospitalized strokes.

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BACKGROUND AND PURPOSE: Measuring the impact of stroke through population-based stroke registers is complex and costly. The aim of the present study is to assess the validity of hospital discharge diagnoses (all ages) and to estimate the total number of hospitalized stroke events in the Veneto region (Northeastern Italy, 4,500,000 inhabitants).
METHODS: All discharges covering a 1-year period (1999) from Veneto hospitals with International Classification of Diseases, 9th Revision codes 342, 430 to 434, and 436 to 438 were identified. A stratified sample was extracted and submitted to retrospective clinical record review according to the World Health Organization MONItoring trends and determinants in CArdiovascular disease stroke project. Using the positive predictive value (PPV) for validated acute stroke of each code to adjust for inaccuracy of discharge diagnoses, an estimate of hospital strokes was obtained.
RESULTS: 4015 admissions were reviewed. Codes 430, 431, 434, and 436 as primary diagnoses had the highest PPV, which sharply decreased in the other diagnostic levels. Code 342 also showed a high PPV. The probability of suspected events meeting the stroke definition increased with age and was highest for patients admitted to neurological wards and for fatal events. Overall 9400 strokes (first-ever and recurrent) were estimated to be hospitalized in 1999, with an attack rate of 208 per 100,000.
CONCLUSIONS: Our data indicate that once validation studies are undertaken on a sample of all hospitalized events, hospital discharge records can provide a valuable source of information on the actual burden of strokes on hospital services.

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