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Refinement of Swedish administrative registers to monitor stroke events on the national level.

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Author: Max Köster
Kjell Asplund
Åsa Johansson
Birgitta Stegmayr

Author Affiliation: National Board of Health and Welfare, Stockholm, Sweden.

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Abstract: Routinely collected databases are kept for administrative purposes. We have refined the analyses of the Swedish National Patient Register and the Cause of Death Register and explored their validity to monitor stroke at the population level.

First-ever strokes (incident cases) and all stroke events were measured by combining the two administrative registers and adding refinements. The administrative registers were validated against the Northern Sweden MONICA, a well-validated population-based epidemiological stroke register. Positive predictive values (PPVs) and sensitivity were calculated.

After refinements (restriction to first-ever strokes and additional minor delineations), the PPV of the two administrative registers combined was 94% and sensitivity 92% when compared with all MONICA stroke categories together. For stroke attacks (first and recurrent events together), the PPV in the administrative registers was 85% and sensitivity 91%. The PPV was higher in women than in men, whereas the sensitivity was similar. The PPV was lower but sensitivity higher in people below compared with those above 75 years of age. Both PPV and sensitivity were lower among fatal cases than among cases that survived 28 days.

After refinement, Swedish national administrative registers may, with some caveats, be used as a low-resource-consuming alternative to crudely monitor stroke incidence rates at the national level. If further accuracy is strived for, high-quality conventional epidemiological registers are required.

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