BACKGROUND AND KEYWORDS

RA DISEASE: Rheumatoid arthritis (RA) is a chronic autoimmune disease that causes pain, stiffness and also limited motion and function of joints.

HAG: The Health Assessment Questionnaire (HAQ) is a self-report questionnaire measuring disability level of patients with RA by the HAQ-index on a scale from 0 (no difficulty) to 3 (unable to do).

OBJECTIVE: The main objective of this study is to estimate the impact of the level of functional status and disability on health service cost related to RA disease in Hungary.

DEPENDENCE: Although it is straightforward to think that higher disability implies higher costs the nature of the relationship is unclear.

COPULA: Nowadays there are more and more recent copula models aimed at describing the behavior of multivariate data sets.

JOINT DISTRIBUTION: Instead of fitting only trend lines for the expected value of the cost the entire bivariate distribution has been modeled.

DATABASE

AC: HAQ-indices of RA patients were collected in the Arthritis Center (AC) of Buda Hospital of Hospitalist Brothers of St. John, Budapest, Hungary.

NHIFA: RA patients were identified in the database of National Health Insurance Fund Administration (NHIFA) and further parameters as e.g. relevant treatments and health service costs (in- and outpatient) were collected from January 2005 to 31st July 2013.

PERMISSION: 26513-32013/EKU (329/2013), by Scientific and Research Ethics Committee of the Medical Research Council

MERGE: After merging AC (497 patients) and NHIFA (43 836 patients) database the 2-dimensional patterns of the HAQ-index measurements versus costs (sum of relevant costs in the following year) and several covariates became available for bivariate modeling.

STUDY PERIOD: There have been 324 patients with 2115 HAQ-index observations available in the AC- NHIFA merged database from 1st January 2005 to 31st July 2013.

EXCHANGE RATE: HUF-US$ currency conversion has been made according to the quarterly average rate of the Central Bank of Hungary (2014 Q2)

STIMULTANEOUS DEPENDENCE ESTIMATES

Modeling Dependence Between Disability Status and Health Service Costs of Patients with Rheumatoid Arthritis in Hungary

Rakonzai P1, Balázs T1, Nagy B1, Rójkovich B1, Gáti T2

1Healthware Consulting Ltd, Budapest, Hungary;
2Buda Hospital of Hospitalist Brothers of St. John, Budapest, Hungary

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