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ARTICLES, PAPERS AND PUBLICATIONS OF ACTUARIAL INTEREST

JOURNAL OF ROYAL STATISTICAL SOCIETY, SERIES A—VOLUME 149—PART I

Liver Cirrhosis in England and Wales Compared to Scotland: An Age-Period-Cohort Analysis 1941–1981 by J. C. Duffy, R. W. Latcham, pp. 45–59

Rates of death from liver cirrhosis in England and Wales and in Scotland are presented for the period 1881–1981. A subset of these are analysed using an age-period-cohort model, based on the GLIM statistical package. The results of the analysis are discussed with special reference to the role of alcohol consumption in the development of cirrhosis, and to the possible differences in consumption between the two regions.

SERIES B. JOURNAL OF THE ROYAL STATISTICAL SOCIETY 1986—VOLUME 47—NO. 3 1985

Testing for serial correlation in regression with missing observations by P. M. Robinson

In order to test for serial correlation in residuals for static time series regression in the presence of missing data, the score principle is applied to likelihood functions.

THE STATISTICIAN—VOLUME 35—NO. 1 1986

Modelling episodes of mental illness: some results from the Second U.K. National Morbidity Survey by Nigel Smeeton

Some historical background is given and the Negative Binomial Distribution is fitted to longitudinal data from the Second National Morbidity Survey.

BIOMETRIKA—VOLUME 73—NO. 1

A case-cohort design for epidemiologic cohort studies and disease prevention trials by R. L. Prentice.

Odds ratio and relative risk estimation procedures are presented for a 'case-cohort' design where a cohort of individuals is to be followed in order to relate failure rates to preceding covariate histories.

JOURNAL OF EPIDEMIOLOGY AND COMMUNITY HEALTH—VOLUME 40—NO. 1

Diet and Coronary Heart Disease in England and Wales during and after the Second World War by D. J. P. Barker and C. Osmond pp. 37–44

During the Second World War, there were large changes in consumption of fats, fibre and sugar in Britain. These changes matched recent recommendations from COMA (Committee on Medical Aspects of Food Policy), with the object of reducing the incidence of Coronary Heart Disease (CHD). CHD mortality among middle-aged people in England and Wales from 1931 to 1967 is examined. After allowance for changes in the coding rules for causes of death and for the sharp rise in all-cause mortality in 1940, there is little to suggest that time trends in CHD mortality were much influenced by the war. These results add no support to the view that compliance with the recommendations on intake of fat, fibre and sugar will lead, by itself, to an appreciable fall in CHD mortality in middle-age.

WILLIAM FARR: COMMEMORATIVE SYMPOSIUM

(OPCS Occasional Paper 83)

Farr, a selftaught statistician, conducted many investigations in the General Register Office from 1839 to 1880 and compiled the earliest English Life Tables: he was elected an honorary F.I.A. in 1852.

The papers include:

BRADFORD HILL, SIR AUSTIN. *William Farr: an overview.*
GREBENIK, E. *Farr's work on demography: births and deaths.*
LEWES, F. *William Farr and the communication of cholera.*
SUTHERLAND, I. *Farr and the public health.*
BENJAMIN, B. *Farr and actuarial science.*
MCDOWALL, M. *Farr and statistics on occupations.*
FOX, J. *Linked Studies.*

1981 CENSUS POST-ENUMERATION SURVEY

Britton, M. and Birch, F.

(OPCS SS1158, 1985)

A clustered sample of one thousand enumeration districts were checked for failures to identify, contact or classify living accommodation, households and for misunderstandings of the census forms by the completor and during processing. The main result was to suggest that the Census missed about 215,000 (·014 per cent) of the population present in England and Wales. The proportion was highest in Inner London due to high mobility of many households there; probably single-person households. Questions on number of rooms, occupation and shared amenities were not always understood correctly.

EUROSTAT DEMOGRAPHIC STATISTICS 1984

(Statistical Office of the European Community, Luxembourg)

A compendium of numbers and rates for the E.C. as a whole and for separate member states giving population change and net migration, birth, death, marriage and divorce rates and numbers, expectation of life at certain ages and projected populations, also present population by age and sex.

GREATER LONDON LIFETABLES—1979–82

(G.L.C. Intelligence Unit Statistics Series no. 50, 1986)

Obtained by extracting mortality rates from the deaths in each borough from October 1979 to September 1982 inclusive and dividing by the small area statistics of the 1981 Census, allowing for under-enumeration and other deficiencies. The data were mainly in quinary age groups and were broken down by reference to other sources.

Life expectancy is plotted against an index of deprivation by borough. Tables of l_x, L_x, T_x, p_x, q_x, and $\mathring{e}_x$ are given for each borough and for Greater London as a whole, both in full and abridged (quinary value) form.

THE HEIGHTS AND WEIGHTS OF ADULTS (AGED 16–64) IN GREAT BRITAIN

(OPCS Social Survey Division: HMSO, 1984)

The members of 5,000 households selected from a geographically-stratified sample were measured in the summer of 1980.

Tables of heights and weights are given subdivided by age, sex, social class, geographical region and the corresponding value for the spouse (if any). Height is also related to height of parents, birth order, health indicators and birthplace. Comparisons are made with results from the United States of America. Female height is subdivided by marital status.

Indices of weight for height are discussed. The Body Mass Index (weight divided by the square of height) is related to age, sex, social class and geographical region. Other characteristics (dieting, exercise, longstanding illness, smoking, drinking and pregnancies) are considered.

Population Trends

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Werner, B. *Infants aged under one in the census 1861- 1981.* The completeness of enumeration of very young children has been about the same (98%) for the last forty years.

39

Craig, J. *Better measures of population density.* An alternative measure is offered depending on the distribution within an area, which can provide more help in identifying social indicators, using the weighted geometric means of sub-areas (e.g. town and country).

Garvey, D. *The history of migration flows in the Republic of Ireland.* Unusually, the population of Eire increased by 100,000 net imigrants between 1971 and 1981—70,000 coming from Great Britain.

40

Fox, J. *et al. Socio-demographic differentials in mortality 1971–1981.* Uses the OPCS Longitudinal Survey to measure differentials with older ages (after retirement), the effect of unemployment on mortality and geographical effects which may bias traditional methods of examining socio-demographic differentials.

1981 Census evaluation programme. Checks of coverage and quality showed an undercount of about a quarter of a million in England and Wales, including 36,000 children aged 0–4. The response to questions on rooms, travel to work and economic activity were least well answered.

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Werner, B. *Fertility trends in different social classes.* Rates were derived from mid-year estimates by age and marital condition (newly available), and shown to be consistent with other OPCS surveys. Convergence of rates over time is noted, except in the case of women over 30.

Denis, T. *International migration: return migrant and remigrant flows.* Analysis by broad age group, sex, marital status and occupation together with duration of stay. Since about one-half of recent migrants had already moved once in the opposite direction, it may be possible to predict future rates of remigration even if first-time migrants remain unknown.

Whitehead, F. E. *Population Statistics in the United Kingdom.* A general account of the sources used in preparing intercensal population estimates at various levels.

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ALDERSON, M. AND ASHWOOD, F. *Projection of mortality rates for the elderly.* Death rates since 1951 from ischaemic heart disease, lung cancer and bronchitis, asthma and emphysema are studied. In 1984 these causes accounted for 52 (36) % of male (female) deaths in England and Wales at ages 60–84. The effect of changes in smoking habits and of air pollution are considered and possible future scenarios are offered for discussion.

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DAYKIN, C. *Projecting the population of the United Kingdom.* After summarizing the methods and bases used in recent years, the article demonstrates the economic effect of faster or slower mortality improvements on social security costs. Estimated contribution rates for the National Insurance Fund (allowing for future price or earnings uprating) are shown, demonstrating the differences necessary if both mortality and fertility are higher (or lower) than the principal projection basis.

BRITTON, M. *Recent Population changes in perspective.* The loss of population from the most urban areas to the suburban and rural areas have continued at a lower rate than hitherto, mainly due to migration since the rate of natural increase is now almost zero. Standard Regions and Counties are studied over the past 15 years.