

Objective: We describe a series of nested life course models that correspond to the critical period, accumulation, and social mobility models and test them simultaneously, on multiple CVD risk factors in, a large cohort study.

Design: Prospective birth cohort study.

Setting: England, Scotland, and Wales.

Participants: 5362 singleton births in the MRC National Survey of Health and Development, followed up since their birth in 1946.

Main Outcomes: CVD risk factors at 53 years: body mass index (BMI), systolic and diastolic blood pressure, total cholesterol, low-density lipoprotein, high-density lipoprotein, triglycerides, glycated haemoglobin (HBA1c).

Results: Social class, according to the Registrar General's classifications, at 3 time points were utilised: childhood (father's occupation when cohort member was age 4), early adulthood (own occupation at age 26 years), and later adulthood (own occupation at 43 years). Partial F-tests comparing a saturated model with each simpler life course model were used to identify the most appropriate model for each risk factor. For women, SEP generally affected the CVD risk factors in a cumulative manner; while SEP in childhood was the prominent model for men. For example, in women BMI increased by 1.11 kg/m² (95% CI 0.76 to 1.46) per unit increase in SEP accumulation score. In men BMI was 0.42 kg/m² (0.17 to 0.68) higher in those from a manual social class in childhood. In both genders, a late adulthood critical period for HBA1c was the best fitting model. BMI at age 53 reduced the associations for all outcomes but whereas BMI at age 53 captured women's lifetime BMI trajectory, it was men's BMI at earlier ages that explained more of the association than BMI at older ages. Exercise, total energy and fat intake, and menopausal status (women only) attenuated the SEP/BMI association in both genders, while lifetime smoking pattern increased the association in women (regression coefficients final model: women 0.77 kg/m² (0.39 to 1.15) and men 0.75 kg/m² (0.16 to 1.35)).

Conclusion: SEP across life influences CVD risk factors differently in men and women. Health behaviours may influence BMI and subsequently the other CVD risk factors, but at different points in the life course depending on gender. Gender difference in health behaviours, reproductive characteristics, and social roles across life may explain the differential effects of SEP on CVD risk factors.

075 SOCIAL INFLUENCES ON TRAJECTORIES OF SELF-RATED HEALTH: A COMPARATIVE STUDY OF FOUR OECD COUNTRIES

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Objective: To describe average national trajectories of self-rated health over a 7-year period, identify social determinants of cross-sectional and longitudinal health; and compare cross-national patterns.

Design: Prospective nationally representative household panel studies (the US Panel Study of Income Dynamics; British Household Panel Survey; the German Socio-Economic Panel Survey; the Danish panel from the European Community Household Panel Survey).

Setting: The US, Britain, Germany and Denmark.

Participants: Household heads and their partners of working age throughout follow-up (US: 4855; Britain: 4365; Germany: 4694; Denmark: 3252).

Main Outcome Measure: Repeated measures of self-rated health (1995–2001). Social indicators include education, occupational class, employment status, income, age, gender, minority status and marital status, all measured in 1994.

Methods: Latent growth curve models describe average national trajectories of self-rated health and individual differences in these trajectories. Latent factors representing intercept and slope components are extracted from seven annual observations across time for self-rated health, and are conditioned on predictors measured one year prior to baseline. Aging-vector graphs are used to visualise trajectories of self-rated health.

Results: The vector graphs for the US and Germany show that self-rated health remained relatively stable for young adults, declined as adults became middle aged and then became more stable again. The graphs for Britain and Denmark indicate a steady decline throughout working life. The Danish model indicates an unfavourable trend in self-rated health during a period that experienced a move to monetarism: ratings were lower for persons of a given age in 2001 than for persons of the same age in 1995. Social covariates predicted baseline health in all four countries, with the strength of association consistent with theories of welfare regime typologies. The strongest social gradients were seen in the US, while the weakest were seen in Denmark and Germany. Britain occupied a position between these two extremes. Once inequalities in baseline health had been accounted for, there were few determinants of mean health decline. There was little difference in the aging trajectories for those with advantaged and average social profiles. By contrast, disadvantage had a strong effect on aging trajectories. Differences were already apparent at 25 years of age in the US and Britain and gaps widened with age in all four countries.

Conclusion: National differences in self-rated health trajectories and their social correlates may be attributed, in part, to welfare policies.

Health service research and evidence based practice

076 MIND THE GAP: USE OF EVIDENCE IN COMMENTARIES ON MMR IN PROFESSIONAL JOURNALS (1988–2007)

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Objective: To examine how journals and magazines disseminate research evidence and guidance on best practice to health professionals by analysing the alignment between commentaries on MMR evidence in journals, and key events in the MMR controversy.

Design: Content analysis of published commentaries on MMR (1988–2007).

Data Sources: Commentaries and articles in six commonly-read UK publications aimed at community health practitioners, identified through interviews with health visitors, practice nurses, GPs and medical librarians (n = 20), and through a survey conducted at the Community Practitioners and Health Visiting Association Annual Conference in 2007.

Main Outcome Measures: Number of comment pieces by publication, year and article type; trends in the focus, and tone (positive, neutral, negative, mixed) and whether recommendations on MMR were included.

Results: 860 articles met the inclusion criteria (British Medical Journal n = 104, Community Practitioner n = 45, Health Visitor n = 24, Practice Nurse n = 61, Nursing Standard n = 61 and Pulse n = 565). Of these, 264 (31%) made some reference to evidence endorsing the safety of MMR. Around one in ten were rated as negative (10.9%, n = 29) or neutral (11.3%, n = 30) in relation to

MMR safety, and nearly a quarter (22.7%, n = 60) were rated as "mixed". In 2000, despite growing public concerns and widespread media coverage, fewer than 20 comment pieces were published. From 2001–2003 the tone of many articles was negative, mixed or neutral, thus conveying ambiguous or negative messages about MMR safety to health professionals, though from 2004 the tone changed and most comment pieces were broadly positive. Overall less than a quarter of comment pieces (n = 196, 22.7%) included reference to current recommendations or other guidance on MMR. This was particularly notable in the period from 1998–2001, following publication of the Wakefield paper in 1998.

Conclusion: During the MMR controversy journals and magazines aimed at health professionals may have added to uncertainty among practitioners by failing to reinforce current practice with evidence-based recommendations about MMR safety. The findings raise questions about how far journals and magazines should go in supporting current public health policy, and how far they should leave readers to make up their own minds.

077 ASSOCIATION BETWEEN VOLUME AND OUTCOME FOR ADULT GENERAL CRITICAL CARE UNITS IN ENGLAND, WALES AND NORTHERN IRELAND

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Introduction: Volume: outcome associations are well established in the surgical literature. In 1995, ICNARC first investigated whether a potential volume: outcome association existed in critical care but found no evidence. Since then, other international studies have investigated this both for all admissions and for admissions receiving mechanical ventilation. Most of these studies have found an association. This study re-investigates the volume: outcome association for admissions to critical care units in the UK, now using a much larger, more representative sample of critical care units.

Methods: Data were extracted from the Case Mix Programme Database (CMPD) for 672 626 admissions to 199 adult, general critical care units from 1995 to 2008. The critical care units were split into quartiles by volume of admissions over a two-year period from 1/1/06 to 31/12/07 (units with less than two years' data were scaled up). Multilevel logistic regression was performed to investigate the association between ultimate acute hospital mortality and quartile of volume, adjusted for case mix and hospital type. This analysis was then repeated solely for admissions receiving mechanical ventilation.

Results: Between 1/1/06 and 31/12/07 there were 154 905 admissions to 172 units. For all admissions and for mechanically ventilated admissions, crude ultimate acute hospital mortality decreased as volume increased across each quartile. The decrease in mortality was explained by case mix with lower severity of illness of admissions in units with higher volume. The results of a multilevel logistic regression analysis for all admissions found no evidence of an association between ultimate acute hospital mortality and quartile of volume, adjusted for case mix and hospital type (p = 0.126). However, odds ratios for ultimate acute hospital mortality for mechanically ventilated admissions did decrease as volume increased across each quartile, but the association was not statistically significant (p = 0.182).

Conclusion: For all admissions and for mechanically ventilated admissions to adult, general critical care units in England, Wales and Northern Ireland, this study found no evidence of an association between ultimate acute hospital mortality and the volume of admissions to the critical care unit.

078 INDEPENDENT SECTOR TREATMENT CENTRES: LEARNING FROM A SCOTTISH CASE STUDY

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Objective: The English Independent Sector Treatment Centre (ISTC) programme uses the private health care industry to provide elective surgery and other clinical services at a projected total cost of £5 billion. To date the government has contracted for £2.7 billion worth of services but the programme remains unevaluated because of a lack of published contract data and poor quality data returns. Scotland has a three year pilot ISTC, the Scottish Regional Treatment Centre (SRTC) worth £18.7 million the contract for which is now in the public domain. This study aims to conduct an independent evaluation of the performance of the SRTC during the first year of operation.

Design: A retrospective analysis of the SRTC comparing activity as reported by hospital episode statistics returned to ISD Scotland with volume and cost data in the SRTC contract and a 10-month audit carried out by management consultants Price Waterhouse Coopers (PWC).

Setting and Participants: All day case and inpatient activity at the SRTC from 1 December 2006 to 31 December 2007.

Main Outcome Measure: Activity and cost.

Results: The annual contract was based on payment for referrals to the SRTC, not actual treatments and specifies a 90% minimum payment on referral value. The contract was awarded on the basis of 2624 referrals a year at a total value of £5 667 464. According to ISD data, the SRTC performed 831 procedures (32% of annual contract volume) in the first 13 months worth £1 035 603 (18% of annual contract value). PWC's figures report 2200 referrals (84%) to the SRTC at a cost of £2 642 000 (47%) in the first 10 months.

Conclusions: The SRTC contract is based on payments for referrals and not actual treatment, as were the wave one English ISTC contracts. This represents a major departure from the normal standards of reporting and commissioning. Also the non-default event exemption clause in the contract means referring health boards retain the risk for many situations where treatment is not completed. This appears to be resulting in payment for non activity which may mean as much as three quarters of the work paid for as referrals haven't been completed as treatments. Neither PWC's analysis nor claim of value for money can be substantiated. We recommend a moratorium on all ISTC contracts until the contracts have been published and properly evaluated with respect to work paid for and actual work carried out and quality of care.

Measurement and recognition of adiposity

079 ACCURACY OF HEIGHT AND WEIGHT DATA FROM CHILD HEALTH RECORDS

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Background: Height and weight measurements routinely collected for child health records are potentially useful for both clinical practice and research, but there is limited knowledge of their accuracy.

Data and Methods: Height/length and weight measurements from clinics of the Avon Longitudinal Study of Parents and Children (ALSPAC) were used as a gold standard against which to assess the accuracy of routinely collected measurements recorded in the Personal