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## AB1255 A REVIEW OF CASE-MIX AND CENTRE EFFECT ADJUSTMENT IN EARLY RHEUMATOID ARTHRITIS COHORTS

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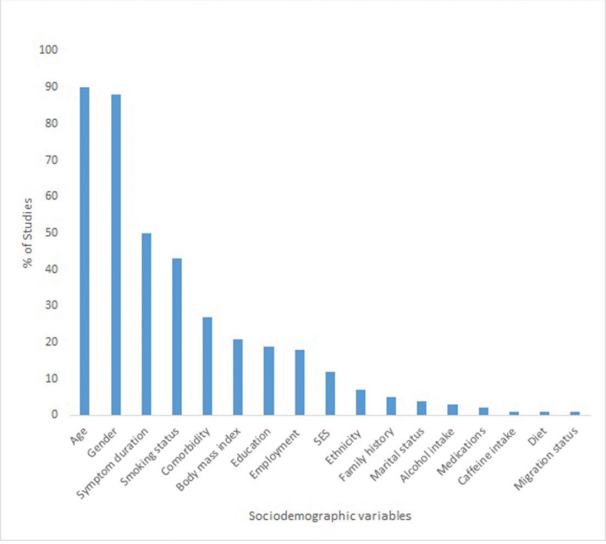
**Background:** Observational cohort studies have been utilised extensively in early Rheumatoid Arthritis (RA), regularly conducted across multiple centres spanning regional and national boundaries. Case-mix and centre effect are considerations essential for determining comparability of results, and likely prevalence of bias. There is currently no standardised approach for case-mix and centre effect adjustment in early RA observational cohorts.
**Objectives:** Describe the spectrum of methodologies used to address case-mix and centre level effects on outcomes in multi-centre early RA observational cohort studies.
**Methods:** Inclusion criteria were cohorts recruiting from 2 or more centres with 100 or more subjects, with a Rheumatologist diagnosis of RA or EIA within the last 24 months. A systematic electronic search of publications was undertaken. Papers were reviewed by two researchers independently. Reference lists of included papers were reviewed for further relevant publications. A search of all included papers' authors was also conducted. Detail on cohort characteristics, case-mix data collection and adjustment, and consideration of centre-level effect in analyses were collected.
**Results:** 1047 papers were identified from the initial search. A total of 20 unique cohorts were identified. Reference review and author search produced 14 more, to make a total of 34 unique observational cohorts drawn from 205 papers. The cohorts were mainly conducted in Europe (24/34, 71%), With 2 (6%) from less economically developed regions. The period of data collection was between 1955 and 2017.
Case-mix: All cohorts considered case-mix in some form (e.g. age and gender), but with heterogenous approaches. The figure displays the relative frequencies of sociodemographic variable consideration across all included papers.
Centre effect: 18/205 (9%) of the included papers accounted for centre in their results, utilising a range methodologies. Where reported, centre had a significant impact.




**Abstract AB1255 – Figure 1**

**Conclusions:** The degree of case-mix reporting varied widely, and few studies addressed centre effect. Where analysed, a centre level impact was clearly apparent. A failure to incorporate centre into analyses can lead to unrecognised bias as a result of confounding by centre. It must be acknowledged that including case-mix variables and adjusting for centre substantially reduces power, and it is likely that many of the reported observations may have lost statistical significance had case-mix and centre effect been addressed more completely. This is the first systematic review of centre effect and case-mix in early RA, and highlights a challenging field deserving further research.
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## AB1256 DEVELOPMENT OF A NATIONAL SERVICE FOR BIOLOGIC DRUG MONITORING

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**Background:** Monitoring serum levels of biological drugs has well recognised benefits for patients and health services. These include appropriate dosing, avoidance of overtreatment, identification of drug failure due to immunogenicity, cost and facilitation of switching therapy.[1]
**Objectives:** To establish a national service for monitoring serum levels of biological drugs.
**Methods:** National Services Scotland established a working group comprised of clinicians, lead pharmacist and Director of Public Health to help optimise biological drug prescribing. (Effective Prescribing Programme Biologics -EPPB). It was recognised that ad-hoc biologic drug monitoring (BM) posed a risk of variation in standards and inequity of access. Existing test volume and cost was established and a business case submitted to the CEO's of each Health Board in Scotland for a national service, testing adalimumab and infliximab twice yearly in 2265 patients. Potential cost savings based on drug withdrawl of 2.5%, 5%, 10%, and 15% in gastroenterology patients ranged from 400,000Euro to 3.5 million Euro. Additional savings for dose reduction in rheumatology patients were not costed but likely to incur further financial advantage.
**Results:** The case was accepted and service tendered. A single site in Glasgow will run the assays (purchased from Grifols) commencing December 2017. The cost modelling predicts a 50% reduction in cost per test compared to existing arrangements. Cost for the whole service will be divided between the commissioning Health Boards with outlay proportional to patient population. The EPPB developed specialty specific advice and an ordercomm with minimum dataset accessible from all Health Boards with the option of retrospective interrogation. A national educational event is scheduled to improve clinician confidence and awareness.
**Conclusions:** To our knowledge this is the first national fully funded biologic drug monitoring service with access to all users of biological drugs. Its introduction will: 1. Support the implementation of national standards of care to ensure the effective and cost effective use of biologic medicines 2. Ensure equity of access to BM across Health Boards. 3. Provide a stronger position for procurement of biologic drugs (uncomplicated by additional service offerings) 4. Provide a sustainable service for Scotland, independent of the drug manufacturer.

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## AB1257 IMPACT OF A SYSTEMATIC SCREENING OF MULTIMORBIDITIES IN PATIENTS WITH CHRONIC INFLAMMATORY RHEUMATIC DISEASES

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**Objectives:** EULAR proposes to screen multimorbidities in chronic inflammatory rheumatic diseases. The aim of the study was to assess i) multimorbidities in patients with chronic inflammatory diseases, ii) how patients follow recommendations given after a systematic standardised multimorbidity screening.
**Methods:** Exams were performed during a 1 day multimorbidity clinic. Diabetes, hypertension, CVD damage, chronic respiratory diseases, osteoporosis and preventive measures were assessed. Advice, complementary exams and prescriptions were provided to patient and general practitioner after this check-up if needed. Patients were called 3 months later to assess the applications of the given recommendations.