practice. All HTA bodies recommended the three biologic therapies for use in patients with moderate to severe plaque psoriasis who have failed to respond to standard systemic therapies with discontinuation rules if no response was observed after 12-16 (16-20: ixekizumab (SMC)) weeks. **Conclusions:** The evidence base, and HTA agency decisions, for guselkumab, ixekizumab, and brodalumab submissions were principally aligned. As more biologics are being approved, understanding the requirements of HTA, and undertaking holistic evidence generation, will play a crucial role in enabling access to the novel biologics.

Systemic Disorders/Conditions - Medical Technologies

PSY36
THE CORRELATION STUDY BETWEEN HIGH-FREQUENCY ULTRASONOGRAPHY OF KNEE JOINT`S LESIONS IN RHEUMATOID AND VARIETY OF SERUM MARKERS INPATIENTS WITH EARLY AND NON-EARLY

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Objectives: The serum levels of CRP,ESR,RF,anti-CCP and the knee joint high-frequency color Doppler ultrasonography were detected in patients of ERA and NER-A,respectively.The correlation between ultrasonographic (US) knee abnormalities in patients with rheumatoid arthritis (RA) and levels of CRP,ESR were investigated. **Methods:** 60 RA patients were divided into two groups, 24 cases in ERA group and 36 cases in NERA group were enrolled in this study. Demographical and Clinical data were recorded, including aging、sex、duration、positive signs of limited shoulder movement、DAS28、serum markers,such as RF、anti-CCP、CRP and ESR. **Results:** 1. The level of CRP and ESR were significantly higher in NERA group than that in ERA group (P=0.002，0.001) Positive rate of RF was significantly higher in NERA group (0.028) ,Positive rate of anti-CCP was not significantly different between NERA and ERA group;2. In the ERA patients, the proportion of suprapatellar bursa effusion was higher than the NERA group,while that of synovitis in NERA was higher than ERA group; 3. Synovitis and synovial blood flow score in NERA group were significantly correlated with DAS28,CRP and ESR.None of the ultrasonography in ERA group was significantly correlated with DAS 28,CRP and ESR. **Conclusions:** High-frequency color Doppler ultrasonography detected accurately the abnormalities of knee joint,it was valuable in the diagnosis of knee in RA patients.

Systemic Disorders/Conditions - Methodological & Statistical Research

PSY37
MORE INFORMATION WORSE DECISIONS? *EVALUATING POTENTIAL OVERUSE OF LABORATORY DIAGNOSTICS IN DIAGNOSING ANAEMIA*

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Objectives: More information is often thought to improve medical decision making, which may lead to overuse of relatively cheap tests. For diagnosing the underlying cause of aneamia in general practice, up to 14 different laboratory tests may be ordered by general practitioners (GPs), according to the Dutch guideline. This study assessed which of these 14 tests actually contribute to diagnosing an underlying cause of anaemia, and which subset of tests is optimal for establishing a correct diagnosis. **Methods:** Data from a previous questionnaire presenting GPs (n=139) with three varying real-world anaemia cases, and all 14 corresponding test results, was used. GPs selected the expected underlying cause (anaemia of chronic disease, iron deficiency anaemia, renal anaemia, 'unknown or other'). The correct underlying cause was established by an expert panel (i.e. GP, internist, clinical chemist). In this study, multinomial regression was used to determine the value of each test for establishing a particular underlying cause. Logistic regression was used to determine the value of each test for establishing the correct underlying cause. Stepwise backward selection using the Akaike Information Criterion was applied to determine the optimal subset of tests. **Results:** Only 9 (60%) of the laboratory tests, and patient age, contributed to diagnosing an underlying cause of anaemia (CRP, ESR, ferritin, folic acid, haemoglobin, leukocytes, MDRD, reticulocytes and serum iron). Diagnosing the correct underlying cause required just five (33%) tests (CRP, ferritin, folic acid, MCV and transferrin), and patient age. **Conclusions:** Of the full set of 14 laboratory tests recommended by the Dutch guideline, only a subset enhances the ability of the GP to diagnose an underlying cause of anaemia, from a statistical perspective. A subset of five tests has most added value. Extending this set with more tests may lead to lead to a decrease rather than increase in correct diagnoses.

PSY38
MARGINAL STRUCTURAL MODEL FOR STUDYING THE CAUSAL EFFECT BETWEEN VASO-OCCLUSIVE CRISES AND OCCURENCE OF DEATH OR COMPLICATIONS IN THE SICKLE-CELL DISEASE PATIENTS

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Objectives: Sickle-cell disease (SCD) is one of the most prevalent inherited diseases. Previous research suggests a relationship between Vaso-Occlusive Crises (VOC), acute painful episodes, and death. However, the time-varying effect of VOC on these outcomes prevents the establishment of a causal relationship using classically adjusted models. This study assessed the effect of VOC in the previous year on occurrence of death and the frequently reported complications using an Inverse Probability Weighted Marginal Structural Model (IPW-MSM). **Methods:** Prevalent patients with SCD between 2008 and 2017, their vital status and complications were identified using ICD-10 diagnosis codes recorded in NHS England's Hospital Episode Statistics database linked to the Office for National Statistics Mortality Data. The causal effect of VOC categorized into 3 groups (0,1-2,3+) on each complication and death was estimated using IPW-MSM Cox models approximated by weighted pooled logistic regressions. The weights were estimated using the probability of being in each VOC category with a multinomial logistic model, and the probability of being censored with a logistic model. These models were adjusted for age, gender, ethnicity, complications and comorbidities. **Results:** A total of 15,076 SCD patients were included with the occurrence of 1,141(8%) deaths, 4,097(27%) Acute Chest Syndrome, 1,571(10%) gallstones, 1,295(9%) Avascular Necrosis, 1,098(7%) sepsis and 1,037(7%) cardiomegaly during the follow-up. The Hazard Ratios of 1-2 VOCs versus 0 VOC and 3+VOCs versus 0 VOC were estimated at 1.44(95% CI:1.15;1.81) and 4.50(2.91;6.97) for death, at 2.98(2.64;3.37) and 5.51(3.67;8.27) for ACS, at 2.60(1.78;3.81) and 2.20(1.43;3.41) for gallstones, at 1.86(1.33;2.58) and 2.07(1.05;4.09) for AVN, at 1.91(1.45;2.52) and 2.11(1.21;3.67) for sepsis and at 1.36(1.04;1.77) and 2.48(1.54;3.99) for cardiomegaly. **Conclusions:** Experiencing 3+ VOCs per year are associated with a higher risk of death and complications. Reducing the number of VOCs experienced or preventing patients from reaching 3 VOCs may significantly reduce the occurrence of death and most complications.

PSY40
ASSESSING THE QUALITY AND COHERENCE OF NETWORK META-ANALYSES OF BIOLOGICS IN PLAQUE PSORIASIS: WHAT DOES ALL THIS EVIDENCE SYNTHESIS TELL US?

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Objectives: A range of biologics are available for patients with moderate-to-severe psoriasis. When head-to-head trials are limited, network meta-analysis (NMA) can compare treatments to inform clinical decision making. Numerous NMAs have been published, but questions remain about their validity and applicability in practice. **Methods:** A systematic review of published NMAs of at least two biologics for moderate-to-severe psoriasis was undertaken; Psoriasis Area Severity Index (PASI) response was the most commonly reported outcome, facilitating comparisons between NMAs. Searches were conducted on 13 March 2019 in Embase, MEDLINE, MEDLINE In-Process and the Cochrane Library. Quality of NMAs was assessed using the International Society for Pharmacoeconomics and Outcomes Research (ISPOR) criteria. NMA methodology, funding and results were compared; potential reasons for differences in results were explored. **Results:** Sixteen analyses were included: 15 evaluated treatments at 10-24 weeks and one at one year. PASI75 response was assessed in 15; all NMAs met at least half of the ISPOR criteria. The major limitations were explaining the rationale for methodology used, exploring effect modifiers and consistency between direct and indirect estimates. The analyses differed in model type (Bayesian or frequentist), analysis of PASI response (binomial or multinomial), and inclusion of un-licensed doses or not (separate or pooled). PASI results were broadly similar. One exception was an NMA by the Cochrane Collaboration, which consistently provided lower estimates of efficacy versus placebo. This analysis used different methods to others, including pooling data for licensed and unlicensed doses. Five NMAs evaluated safety, however assessment of different endpoints limited comparisons. **Conclusions:** Despite differences in methodology and sources of funding, the majority of NMAs came to similar conclusions. This supports the validity of NMAs for comparing treatments in moderate-to-severe PsO. For clinical decision making, it is important to use good-quality, up-to-date NMAs with relevant assumptions.

Systemic Disorders/Conditions - Organizational Practices

PSY41
PERFORMANCE BENCHMARKING OF PUBLIC THALASSAEMIA TREATMENT CENTRES IN MALAYSIA

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Objectives: Thalassaemia is a complex inherited blood disorder requiring life-long medical care and high prevalence of thalassaemia in Malaysia is financially challenging to public healthcare system. This study aims to determine the efficiency levels of thalassaemia treatment centres and investigate the determinants influencing the performance levels. **Methods:** Data from 2016 and 2017 of 30 public