examination and those with drug exposure >5 yrs were prioritised. An MDT pathway was established to manage anyone with signs of HCQ toxicity.

Results: 2,132 patients are prescribed HCQ in our county with population of 669,000. 997 patients fell under our unit's remit. 136 patients (82% women) have been screened with mean age of 58 yrs (24-84y). 65 (48%) have RA and remaining with connective tissue diseases. Median disease duration is 10 yr (0.75-30 yrs) and median drug exposure is 10 yr (0.4-27yr). Three doses of HCQ are prescribed: 200mg daily (53%), 300mg daily (13%) and 400mg daily (34%). Ten (7.3%) patients were found to have abnormal results. Three were consistent with HCQ toxicity pattern and one with likely toxicity. Two of them had already developed severe sight loss. HCQ was discontinued in all these cases. Six had other incidental anomalies requiring further input.

Conclusion: Hydroxychloroquine is used increasingly in the treatment of autoimmune diseases with emerging role in oncology. It has a favourable safety and tolerability profile with survival benefit demonstrated in SLE. In the UK, its adoption has been particularly high owing to the requirement of trialling two DMARDs prior to being eligible for biologic therapy in RA and PsA. In the absence of modern retinal imaging techniques, HCQ toxicity was perhaps underestimated and hence older guidelines did not emphasise strict monitoring practice. Our preliminary data, in line with published evidence, represents a greater public health problem than previously estimated. It is clear that implementing the new guidelines not only recognises hitherto undiagnosed drug toxicity but also identifies incidental significant eye pathology which puts pressure on health-care resources and needs robust service planning. Rheumatologists need to be aware of the potential impact requiring informed discussion with patients and perhaps a fundamental shift in prescribing behaviour to avoid this rapidly developing health concern.

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AB1183 TERIPARATIDE SWITCH TO BIOSIMILAR - IS IT COST EFFECTIVE?

T. Akram¹, M. Siddique¹, H. A. Javed¹, J. Begum¹, J. Fourmy¹, M. K. Nisar¹.

¹Luton and Dunstable University Hospital, Luton, United Kingdom

Background: Teriparatide is an effective treatment option for osteoporosis however NICE restricts its use to patients with high disease burden. This was based on cost effectiveness evaluation of the originator (Forsteo®) and would be different for recently introduced generic preparation.

Objectives: We wished to evaluate the current prescribing behaviour prior to a potential switch to generic version and associated cost savings.

Methods: All patients prescribed Teriparatide since the commencement of specialist osteoporosis service in Aug 2014 at our University teaching hospital covering 350,000 population were included. Data was extracted from electronic database with full access to demographics, population characteristics, disease parameters and medication history.

Results: 113 patients were prescribed Teriparatide over five years. Mean age of participants was 76 yrs (53-96). They had on average three comorbidities (0-8) with most common being hypertension (n=44, 38.9%) and inflammatory arthritis (n=21, 18.5%). Sixteen (14.1%) individuals had concurrent corticosteroids. Median number of fractures prior to therapy were four (0-12). Prior treatments included oral therapy (n= 90,79.6%), IV zoledronate (n=22, 19.4%) and denosumab (n=19, 16.8%). 66 (58.4%) of patients only had one prior bone active medication. Mean duration of prior therapy was 62.4 months (9-192 months). 17 (15.0%) patients had chronic kidney disease with lowest eGFR of 38.41 (36.2%) had Vit D level between 40-75 nmol/L. Median T score was -3.8 (-2.1 - -6.0) which improved to -3.4 (-2.9 - -3.9) after two years.

Conclusion: Our real-world study shows that teriparatide is used predominantly in complex, multi-morbid older individuals with several prior fractures. Despite that teriparatide remains effective for a wide range of individuals including those with inflammatory arthritis and/or concurrent steroid use. Neither moderate CKD nor mild Vit D insufficiency seems to impact its efficacy.

This is in line with recent meta-analysis of real life teriparatide use in complex osteoporosis with multimorbidity. Our study should enhance clinicians' confidence in its prescribing. It's notable that the use is higher than current estimates based on NICE cost effectiveness analysis for eligibility of teriparatide. Instead of annual predicted use of 4.8/100,000 population, it was prescribed to 6.4/100,000. This could potentially have a cost impact however the introduction of a generic version would mitigate against it. We calculated our savings to be over £125,000 if all patients were switched. These savings at national level would hopefully improve access to a wider patient cohort and perhaps allow earlier use in the treatment paradigm.

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AB1184 BURDEN OF DISEASE AND DIRECT HEALTH CARE COSTS FOR PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS IN WESTERN AUSTRALIA

W. Raymond¹, G. Ngo¹, M. Ognjenovic¹, I. Li², P. Cheah³, A. Chakera⁴, A. Mclean-Tooke^{5,6}, J. "Nossent"^{1,3} on behalf of Perth Working Party on SLE.

¹The University of Western Australia, Rheumatology Section, School of Medicine, Crawley, Australia; ²The University of Western Australia, School of Population & Global Health, Crawley, Australia; ³Sir Charles Gairdner Hospital, Rheumatology, Nedlands, Australia; ⁴The University of Western Australia, Nephrology, School of Medicine, Crawley, Australia; ⁵Sir Charles Gairdner Hospital, Immunology, Nedlands, Australia; ⁶PathWest, Laboratory Medicine, Nedlands, Australia

Background: Systemic Lupus Erythematosus (SLE) is a chronic multiorgan disease with an unpredictable disease course, which requires monitoring for disease activity, treatment efficacy and comorbidity. Data on the healthcare utilization and cost of SLE, especially from Australia are scarce.

Objectives: To determine the healthcare utilisation and estimated costs of inpatient admissions (IP), emergency (ED) and outpatient (OPD) hospital visits and investigations for SLE patients in Western Australia (WA).

Methods: This is a longitudinal cohort study of SLE patients seen at a metropolitan public hospital, with ≥6 months of follow-up (n=179, 95% female; baseline age 36.2 ± 15.2 years). Electronic medical records provided data on OPD, ED and IP visits, and investigations conducted at public hospitals from January 2000 - December 2019. Direct healthcare costs were estimated from public hospital expenditure aggregates in FY2018/19.

Results: During a median observation period of 11.0 years (IQR 7.4, 13.5), SLE patients required 13,320 OPD visits for a median of 5.3 (IQR 3.0, 9.3) appointments per annum. The majority of OPD visits were with Rheumatology (n=1,986, 14.9%), Immunology (n=1,527, 11.5%), and allied health services (n=1,952, 14.7%), followed by Ophthalmology (n=1,385, 10.4%), maternal & fetal health (n=873, 6.6%) and Renal medicine (n=844, 6.3%). In total 143 patients (79.9%) attended ED on average of 3 times (IQR 2, 7; ED visit rate 44.0 (95%CI 41.0, 47.0) per 100 person years. Overall, 125 patients (69.8%) were hospitalised at average 3 times (IQR 2, 6), with a mean LOS of 5 days (IQR 3, 12) for an IP rate of 37.6 per 100 patient years (95%CI 34.8, 40.5). Only 12.8% of patients did not attend ED or IP in the public health care system. A total of 367,067 laboratory investigations were performed (median nr. of tests per patient 205 (±290) per year) across fields of haematology/biochemistry (89%), immunology (5%), microbiology (4.5%) and histopathology (<1%). Minimum estimates for direct health care cost during the study period were 25.4 million AUD (IP 11m, OPD 6.3m, ED 0.9m and investigations 9.1m) for a crude annual cost of 14,088 AUD per patient.

Conclusion: SLE patients have extensive healthcare utilization across a range of outpatient and inpatient services. The main direct costs for this multidisciplinary health care provision are for disease monitoring and in-hospital treatment. Based on these conservative cost estimates to which medication cost need to be added, total costs for SLE care in WA are projected to be significantly higher than reported from Europe.

Table 1. Healthcare resource utilisation of patients with systemic lupus erythematosus between in Western Australia between 2000-2019.

	Outpatient	ED Visits	Admissions
Patients, n (%)	179 (100)	143 (79.9)	125 (69.8)
Total events, n	13,320	794	678
Visit rate per 100 patient years (95%CI)	738.9 (726.3, 751.4)	44.0 (41.0, 47.2)	37.6 (34.8, 40.5)
Patients with ≥ 2 visit per annum, n (%)	153 (85.5)	110 (77.0)	94 (75.2)
Patients with ≥ 4 visits per annum, n (%)	112 (62.6)	77 (53.9)	63 (50.4)
Patients with >10 visits per annum, n (%)	37 (20.7)	17 (11.9)	13 (10.4)
Discharged from ED, n (%)	-	684 (93.8)	-
Admitted from the ED, n (%)	-	110 (77.0)	110 (88.0)
Average length of stay, median (IQR)	-	3.0(2.1, 4.0) hrs	3.2 (1.5, 5.8) days
Patients with an overnight admission, n (%)	-	-	122 (98)
Overnight admissions, median (IQR)	-	-	3 (1, 5)
Patients with admissions >7 days	-	-	53 (42.4)
Costs AUD (FY2018/19)	\$6,273,720	\$869,430	\$10,997,485

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AB1185 BUDGET IMPACT ANALYSIS OF INTRODUCING SUBCUTANEOUS INFILIXIMAB CT-P13 SC FROM THE UK PAYER PERSPECTIVE

M. Perry¹, M. Jang². ¹Royal Alexandra Hospital, Paisley, United Kingdom; ²Celltrion Healthcare Co., Ltd, Incheon, Korea, Rep. of (South Korea)

Background: CT-P13 subcutaneous (SC) is the first and only SC version of infliximab developed by Celltrion Healthcare and currently approved by the European Medicines Agency (EMA) for the treatment of rheumatoid arthritis (RA). Infliximab has been only available in intravenous (IV) formulation and thus this new mode of administration will allow patients to self-inject at homes. Self-injection will reduce number of outpatient visits and expected to decrease IV administration cost significantly. This research describes the economic impact of introducing infliximab SC from the UK payer perspective.

Objectives: The budget impact analysis (BIA) was conducted to assess the financial impact of the adoption of infliximab SC. The BIA calculates the costs of treatment (drug acquisition cost and administration) for patients with RA as first-line treatments, and compares the cost in a scenario without infliximab SC vs a scenario with infliximab SC to estimate the budget impact over the 5 year period.

Methods: A prevalence-based BIM was developed incorporating epidemiological data, administration cost data from the literature and market share data from IQVIA. The analysis compared a market scenario where a proportion of patients were treated with infliximab SC ('World With' infliximab SC) to an alternative market scenario where infliximab SC were not available and all patients were treated with IV ('World Without' infliximab SC). The model assumed that the clinical outcomes are same between infliximab SC and infliximab IV, and patients entering the model were all naïve and remained in the treatment for 5 years. In the 'World With' scenario, patients receiving infliximab IV switched to SC administration at 30% in Year 1, 45% in Year 2, and remained 60% from Year 3 to 5. The drug cost of infliximab SC is assumed to be the same as that of comparator treatments. Administration cost per infliximab IV infusion was estimated to be £382 and £3.32 per SC administration.

Results: Compared to the "World Without" infliximab SC, the introduction of subcutaneous infliximab resulted in cost savings of £39.6 million in UK over a 5-year period, equating to 4,466 additional patients to be treated with infliximab SC in base case scenario.

Sensitivity analysis includes dose-escalation up to 5mg/kg to reflect the real-world setting. In that scenario, the saving increases to £279.6 million over a 5-year period, equating to 30,839 additional patients to be treated with infliximab SC.

Conclusion: Utilization of subcutaneous infliximab may lead to substantial cost savings for UK payers. Self-injection will significantly reduce the burden on healthcare delivery allowing resource to be spent elsewhere. Sensitivity analysis concluded that treatment with increased IV dose will result in higher savings from switching patients to subcutaneous infliximab.

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AB1186 THE NHS SCOTLAND THERAPEUTIC DRUG MONITORING SERVICE FOR BIOLOGIC MEDICINES: PRELIMINARY ANALYSIS OF UTILISATION AND CLINICAL RESULTS AT YEAR 1

J. Macdonald¹, M. Perry², P. Galloway¹, J. P. Seenan¹, A. Dunlop¹. ¹Queen Elizabeth University Hospital, Glasgow, United Kingdom; ²Royal Alexandra Hospital, Paisley, United Kingdom

Background: Anti-tumour necrosis factor α (anti-TNFα) drugs infliximab (IFX) and adalimumab (ADL) are effective treatments for several rheumatic diseases. Therapeutic drug level and anti-drug antibody monitoring (TDM) has emerged as a useful tool for optimising drug effectiveness, by identifying individuals who may benefit from dose or treatment frequency adjustment, or have secondary drug failure due to immunogenicity.

Objectives: Ensuring safe and effective use of biologic medicines has been identified as a key priority for NHS Scotland. Inequity and inconsistency of access to TDM across the nation was recognised as a barrier to delivering best practice and so a nationally commissioned TDM service was proposed in January 2018 to support clinical practice, providing universal access to TDM for services treating inflammatory diseases across Scotland. Data collection and analysis of results regarding usage and clinical impact of the service were identified as key outcome measures to assess service success and sustainability.

Methods: A service webpage was developed to provide guidance on testing strategies and interpretation of TDM results (1). An automated search of clinical data and test results recorded within the clinical biochemistry electronic results management system was conducted to identify all TDM tests performed between 01/01/2018 and 31/12/2018. Descriptive analysis outcomes included the number of samples received, processed, overall testing population, service utilisation by Health Board, number and results of TDM tests performed per patient. TDM results were interpreted according to published guidance on the service webpage and comparison was made with previously published data (2).

Results: 3609 specimens were received for testing, from 13 of the 14 Scottish Health Boards. 3561 drug level (DL) tests were performed; 1786 IFX, 1775 ADL. 2717 total antidrug anti-body (TABT) tests and 681 free antidrug anti-body tests (FABT) were performed according to service protocol. 2791 individuals had one or more TDM tests during the 12-month period, of whom 541 were tested twice or more (range 2-5).

Table 1. IFX & ADL DL, TABT and FABT results by category as defined in service guidance (AU/ml = Arbitrary Units/ml)]

		INFILIXIMAB	ADALIMUMAB	
Drug level by category	Supratherapeutic DL > 8mcg/ml	546 (30.6%)	708 (39.9%)	Supratherapeutic DL > 10 mcg/ml
	Therapeutic DL ≥3<8.1mcg/ml	738 (41.3%)	636 (35.8%)	Therapeutic DL ≥5<10.1 mcg/ml
	Sub-therapeutic DL < 3mcg/ml	502 (28.1%)	431 (24.3%)	Sub-therapeutic DL < 5 mcg/ml
				Negative (<10 AU/ml)
TABT by category	Negative (<10 AU/ml)	791 (54.2%)	905 (71.9%)	