clinical course (1). The impact of deprivation in early assessment has yet to be characterised on a national level.

Objectives: To investigate if rapid assessment in secondary care associates with achieving a good treatment response, and if this is modulated by social deprivation.

Methods: An audit, designed as a prospective longitudinal observational study, was conducted to assess early RA care. All NHS providers in England and Wales were required to participate. Follow up data were captured over 3 months for subjects with a diagnosis of RA. Rheumatologist assessment within 3 weeks of referral was the predictor variable. The primary outcome was good EULAR DAS response; the secondary outcome was meaningful improvement in RAID score. Logistic regression was used to estimate for associations. Confounders including age, gender, baseline DAS28 and RAID scores were considered in analyses. The index of multiple deprivation (IMD) rank was calculated for each individual based on super-output geographical areas. The IMD rank was then stratified into quintiles and included as a confounder.

Results: 136 of 146 eligible trusts submitted data. 11,752 subjects consented, 5,622 were diagnosed with RA. 94/5622 (1.7%) had incomplete assessment date data. DAS28 response was available for 2234/5622 (39.7%), and RAID response for 901/5622 (16%). The table shows baseline characteristics and response for subjects with complete data. Assessment within 3 weeks associated with a significantly greater improvement in DAS28 and RAID scores, with an adjusted odds ratio for a good EULAR response 1.38 (1.15–1.66) and meaningful RAID reduction 1.44 (1.03–2.02).

	Seen within 3 weeks	Not seen within 3 weeks	P Value
N	878	1356	
Age (SD)	58.6 (14.8)	59.9 (14.1)	0.046*
Female (%)	65.2	64.4	0.24**
White British (%)	86	88.9	0.015**
Current smoker (%)	21.1	25.4	0.009**
IMD quintile mean	3	3	
DAS28 EULAR good response (%)	43.7	35.8	0.001**
DAS28 EULAR moderate response (%)	31.2	35	
DAS28 EULAR no response (%)	25.1	29.1	
Achieved MCI [†] RAID (%)	48	40.7	0.026*

*t-test; **chi-squared. [†]Minimal clinically important difference (reduction by 50% or absolute reduction >3).

Conclusions: These real world data confirm rapid assessment significantly predicts treatment response, in terms of clinical disease activity and patient reported outcomes. Amongst those who were assessed within 3 weeks of referral, an additional 8% achieved a good EULAR response. The association with RAID response was strengthened when social deprivation was included as a confounder. The relationship between IMD and RAID response appears to be non-linear and requires further study.

References:

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SAT0700 COMPARATIVE RISK OF RESPIRATORY DEPRESSION IN PATIENTS TREATED WITH OPIOIDS FOR NON-MALIGNANT PAIN

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Background: Opioid use for non-cancer pain has increased considerably over the last 30 years. The U.S. Food and Drug Administration announced several boxed warnings in 2016 to highlight serious opioid-related risks (1) in an effort to reduce fatal overdoses, 80% of which are unintentional (2). The most serious opioid related adverse event is respiratory depression (RD), which can be potentially fatal. There are few data on the incidence of RD in opioid users for non-malignant pain and no comparative data between drugs.

Objectives: To assess the comparative risk of RD in new users of opioids for non-malignant pain using routinely collected electronic patient records (EPR).

Methods: Opioid users from Salford hospital EPR were identified between 2014–2016. Patients with prior malignancy were excluded on the basis of ICD-10 codes and health issues. Those with prior history of opioid use were excluded using keyword searches within the medicines reconciliation document. The primary analysis was on drug + 1 day lag window, unless patient switched to another opioid. Exposure was categorised as opioid monotherapy by drug or combination of opioids (so that RD events could be assigned to a single exposure category). Electronic National Early Warning Scores, used to regularly monitor physiological parameters during inpatient visits, were used to classify RD. An RD event was defined as any one of the following: respiratory rate (RR) ≤8/min, RR ≤10/min and oxygen saturations<94%, RR ≤10/min and altered consciousness, or dispensed naloxone use. Crude rates per 1000 person years of follow up were calculated and Cox proportional hazards models were used to examine the comparative risk of dispensed opioids and RD. Patients contributed follow up time for a particular

drug from dispensed drug start date until day after discontinuation, first RD event, death or end of last hospital admission (by 31/05/16).

Results: 8007 opioid users were included in the study, 3,976 female (50%) and a mean age (SD) of 53 (21) years. There were 255 RD events observed on treatment, 87 with severe respiratory depression (RR <8/min), 114 requiring naloxone and 3 respiratory arrests. Patients on fentanyl, morphine, oxycodone and combination treatment had the highest crude rates of RD (table). In the age and gender adjusted Cox-model, using codeine as the referent, patients on fentanyl, morphine, oxycodone and combination opioids had the highest risk of RD [(table), adjusted HR (95% CI) for combination opioids: 2.22 (1.56, 3.16)]. Compared to morphine, combination opioids had an adjusted HR of 1.52 (1.09, 2.13).

Opioid (no. of patients)	Codeine (n=4,638)	Fentanyl (n=577)	Morphine (n=3,783)	Oxycodone (n=1,740)	Tramadol (n=189)	Alfentanil (n=372)	Buprenorphine (n=93)	Combination (n=3,175)
Mean age (years, SD)	51 (20)	62(20)	48 (18)	68 (18)	48 (18)	52 (17)	75 (17)	49 (19)
Females (%)	50	49	49	55	49	35	66	50
Median follow up per patient (days)	7 (3-15)	12 (6-24)	8 (4-15)	14 (7-28)	15 (7-36)	37 (17-78)	36 (21-67)	9 (5-19)
Number of RD events	63	11	79	37	2	2	1	60
Crude rate per 1000 patient years (95% CI)	58 (46, 75)	120 (66, 217)	89 (72, 111)	102 (74, 141)	40 (10, 160)	70 (17, 283)	61 (9, 433)	152 (118, 195)
Hazard ratio (95% CI)	Ref	1.99 (1.05, 3.77)*	1.49 (1.06, 2.07)*	1.79 (1.19, 2.69)*	1.05 (0.26, 4.31)	0.48 (0.12, 1.98)	1.73(0.24, 12.51)	2.23 (1.56, 3.17)*
Age and gender adjusted hazard ratio (95% CI)	Ref	2.05 (1.08, 3.90)*	1.46 (1.05, 2.03)*	1.99(1.31, 3.03)*	1.03 (0.25, 4.20)	0.45 (0.11, 1.86)	1.83 (0.25, 13.24)	2.22 (1.56, 3.16)*
Hazard ratio (95% CI)	0.67 (0.48, 0.94)*	1.34 (0.71, 2.51)	Ref	1.21 (0.82, 1.78)	0.71 (0.17, 2.89)	0.33 (0.08, 1.32)	1.16 (0.16, 8.39)	1.50 (1.07, 2.10)*
Age and gender adjusted hazard ratio (95% CI)	0.69 (0.49, 0.95)*	1.40 (0.74, 2.65)	Ref	1.37 (0.91, 2.06)	0.70 (0.17, 2.87)	0.31 (0.08, 1.27)	1.25 (0.17, 9.06)	1.52 (1.09, 2.13)*

* p<0.05

Conclusions: Fentanyl, oxycodone, morphine monotherapy have a significantly higher risk of RD than codeine, but these are not significantly different from each other. Combination opioids confer the highest risk of RD, compared to both codeine and morphine. The strengths of this study include capture of real time physiological parameters to define RD and dispensed medication use (rather than prescribed) to define exposure.

References:

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SAT0701 TOWARDS DIAGNOSIS-SPECIFIC LIFETIME RISKS FOR TOTAL HIP ARTHROPLASTY REVISION SURGERY

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Background: An important aspect regarding optimal timing of primary hip arthroplasty (THA) is to weigh the benefit associated with the primary surgery at a certain point in time against the risk for revision surgery. Revision surgery should be avoided, as outcomes after revision surgery are less favourable than outcomes after primary surgery. Information on lifetime revision risks is needed to guide decision making for individual patients regarding timing of primary surgery.

Objectives: Our aim was to provide the 7 year cumulative percentages for revision surgery stratified for diagnosis, sex, type of fixation and age at which primary THA was performed.

Methods: Data on arthroplasties was available from the Dutch Arthroplasty Register (LROI), a nationwide population-based registry with information on all joint arthroplasties in the Netherlands from 2007 onwards. For the current study, all patients who received a primary THA in the period 2007 to 2015 were included except patients with a metal on metal prosthesis, patients with a hybrid or reversed hybrid fixation type or patients with revision surgery without primary surgery registered. Revision surgery was defined as any change of one or more components of the prosthesis. For the current study age at primary surgery, diagnosis, sex, type of fixation (uncemented, cemented) and survival (alive/dead) and revision of prosthesis (yes/no) were extracted from the LROI database.