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### Sir, Hydroxychloroquine use: the potential impact of new ocular screening guidelines

Hydroxychloroquine (HCQ) has been widely prescribed by Rheumatologists since the 1950s. Retinal toxicity, particularly with treatment duration >5 years, is a recognised complication. The British Society for Rheumatology (BSR) recently updated its screening guidelines:<sup>1</sup>

*‘Patients should have baseline formal ophthalmic examination, ideally including objective retinal assessment for example using optical coherence tomography (OCT), within 1 year of commencing HCQ.....*

*(and) annual eye assessment (ideally including optical coherence tomography) if continued for >5 years’*

This reflected availability of data from OCT, and recognition that risk of HCQ-induced retinal toxicity is greater than previously thought. We set out to quantify HCQ use in England and Wales, to understand the impact of the new guidelines on ophthalmology services.

#### Estimate of new starters/year

Data from the Healthcare Quality Improvement Partnership (HQIP) Early Inflammatory Arthritis national audit and The Early Rheumatoid Arthritis Network (ERAN) were reviewed. ERAN (2001–2011) reported HCQ use of 22%. HQIP (2014–2016) reported 51.7% of patients newly diagnosed with rheumatoid arthritis (RA) were commenced on HCQ. The higher reported usage in

HQIP may reflect a movement towards combination therapy in contemporary practice.

The Systemic Lupus International Collaborating Clinics Inception Cohort reported 67% of SLE patients commence HCQ in the first year.<sup>2</sup>

Extrapolating using UK disease incidence data for RA and Lupus,<sup>3,4</sup> and an adult population of 47 300 000, this equates to around 11 000 new HCQ initiations per year in England and Wales.

#### Individuals that are established on HCQ

Considerable effort is needed to bring established patients in line with the new guidelines. NHS Digital provides summary data from England on community expenditure and prescribing.<sup>5</sup> In 2016, 58 810 415 HCQ 200 mg tablets were dispensed, equating to 161 124 prevalent users (assuming 200 mg daily dose).

#### Horizon scanning and time trends

Within rheumatology, treatment guidelines have substantially evolved in the last decade, with recommendations for intensive therapy advocating targets of disease remission. Strategy trials have demonstrated cost benefits to combination therapy.

NHS Digital provides a useful data source for examining the time trends of HCQ use (Figure 1).

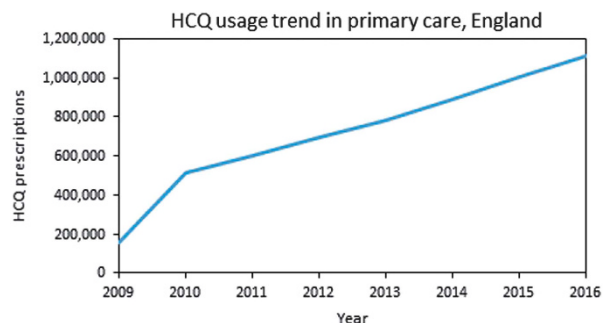
#### Implications

Retinal assessment based on the new BSR guidance will significantly increase pressure on NHS resources. This will include a transient catch up period for established HCQ users requiring additional screening, as well as an increased burden for new starters. This brings the cost-benefit of HCQ into question.

The Royal College of Ophthalmologists (RCOphth) is undertaking an independent review of the evidence, and new guidelines with collaborative recommendations are imminent.

#### Conflict of interest

Mark Yates is funded by the BSR. James Galloway is on the RCOphth hydroxychloroquine guidelines committee. The remaining authors declare no conflict of interest.



**Figure 1** Source: <http://content.digital.nhs.uk/catalogue/PUB23631/pres-cost-anal-eng-2016-trend.zip> (accessed on 14 May 2017).

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