

West Yorkshire & Harrogate Joint Committee of Clinical Commissioning Groups

Summary report		
Date of meeting: 5 October 2021		Agenda item: 37/21
Report title:	Hydroxychloroquine & Chloroquine Retinopathy Monitoring - Pathway and Policy Amendment	
Joint Committee sponsor:	Jo Webster	
Clinical Lead:	Dr James Thomas	
Author:	Kirsty Shuttleworth, Gaynor Goodman	
Presenter:	Catherine Thompson	
Purpose of report: (why is this being brought to the Committee?)		
Decision	✓	Comment
Assurance		
Executive summary		
<p>The West Yorkshire and Harrogate (WY&H) Improving Planned Care programme addresses clinical thresholds and criteria for clinical procedures, including the development of standardised policies and pathways.</p> <p>The current eye care work stream has standardised the clinical pathways for a range of conditions and harmonised the clinical thresholds for policies within these pathways. We present here an amendment to WY&H pathway and policy for Hydroxychloroquine and Chloroquine Retinopathy to the following:</p> <ul style="list-style-type: none"> • A change in terminology to Monitoring from screening. • Monitoring to commence after 5 years of treatment in low risk patients. • Baseline testing for new initiators on Hydroxychloroquine and Chloroquine is no longer necessary. • There is also a minor amendment to the impaired renal function limits in the context of monitoring. It was previously set at an estimated glomerular filtration rate of less than 50ml/min/1.73m² which has been changed to an estimated glomerular filtration rate of less than 60ml/min/1.73m². <p>These changes presented here for adoption are in line with the updated guidance from NICE and The Royal College of Ophthalmologists, published December 2020.</p>		
Recommendations and next steps		
The WY&H Joint Committee is asked to approve the amendment to the WY&H Hydroxychloroquine and Chloroquine Pathway and Policy to reflect updated clinical guidance.		
Delivering outcomes: describe how the report supports the delivery of STP outcomes (Health and wellbeing, care and quality, finance and efficiency)		
Health and Wellbeing: The programme adopts a 'right care, right place, right time' approach to the planning and delivery of planned care services.		

Care and Quality: Adopting this amendment will ensure that patients across West Yorkshire and Harrogate who are prescribed hydroxychloroquine or chloroquine have the correct monitoring and follow the same pathway, in line with the updated guidelines, ensuring safe, evidence-based interventions with follow-up at the appropriate time. This will prevent avoidable sight loss for patients, avoid unnecessary interventions and free up clinical time. Adoption across West Yorkshire and Harrogate will reduce the variation in monitoring offered to people across our region.

Finance and Efficiency: The impact of these changes is expected to move the cost base of the previous monitoring at 3 years to 5 years. There will be an overall reduction in cost impact to the system by increasing the monitoring interval of these patients. The population as stated in the original paper (Hydroxychloroquine and Chloroquine retinopathy monitoring – pathway and policy 2019) remains the same. The exact savings are difficult to quantify and will vary by place based on the contracting and payment arrangements in place locally, however based on a data outlined in the original paper, patients currently prescribed hydroxychloroquine and chloroquine carry a monitoring cost per patient, this cost is anticipated to be in the region of £512,582 across the WY&H region (see paragraph 26, appendix 5). Adopting the new guidance and moving initial monitoring from 3 years to 5 years will reduce this cost to £377,454.

Impact assessment (please provide a brief description, or refer to the main body of the report)

Clinical outcomes:	See paragraph 1, 5 - 16
Public involvement:	See paragraph 18,19
Finance:	See paragraph 26, 27, appendix 5
Risk:	See paragraph 18, 24, 26, 27
Conflicts of interest:	Dr James Thomas: GP Chair of NHS Bradford and Craven CCG; partner of Modality GP partnership; Dr Kate Thomas (spouse) is also a partner of Modality GP partnership. Jo Webster: Chief Officer of NHS Wakefield CCG Catherine Thompson: none declared

WY&H Joint Committee of CCGs

5 October 2021

West Yorkshire and Harrogate Health and Care Partnership Improving Planned Care Programme:

Introduction

1. The West Yorkshire and Harrogate Improving Planned Care programme addresses clinical thresholds and criteria for clinical procedures. The purpose of the eye care work stream is to standardise clinical pathways for a range of conditions and harmonise the clinical thresholds for policies within these pathways.
2. The Improving Planned Care programme of the West Yorkshire and Harrogate Health and Care Partnership (WY&H HCP) has considered the following new guidance from NICE and RCOphth (Royal College of Ophthalmology);
 - A change in terminology to Monitoring from screening.
 - Monitoring to commence after 5 years of treatment in low risk patients.
 - Baseline testing for new initiators on Hydroxychloroquine and Chloroquine is no longer necessary.
 - The amendments to the impaired renal function limits in the context of monitoring. It was previously set at an estimated glomerular filtration rate of less than 50ml/min/1.73m² which has been changed to an estimated glomerular filtration rate of less than 60ml/min/1.73m².
3. The new NICE guidance published in 2020, in response to updated guidance from the RCOphth, to amend the policy as stated above in paragraph 2 was presented for consideration by the WY&H Clinical Forum.

West Yorkshire and Harrogate Policy Development Process

4. The Improving Planned Care programme has developed a governance process to support decision making through the Joint Committee of WY&H CCGs as set out in the scheme of delegation appended to the WY&H Memorandum of Understanding. This has been discussed and agreed through clinical engagement.
 - Each policy or pathway is developed in the relevant working group using the 'do once and share' approach i.e. one place / CCG / the programme team leads the development of the policy or pathway.
 - Clinical involvement is secured by the place leading the pathway / policy development, and the draft policy / pathway shared for comment and development with relevant clinicians across WY&H.
 - The developed policy or pathway is shared with members of the relevant working group to ensure agreement of all working group members.

- Mapping of the differences between the proposed pathway and the current pathway and policies in each of the then six WY CCGs and an assessment of issues and risks
- Mapping of engagement findings from across the then six WY CCGs and assessment of the need for consultation or further engagement
- Completion of the WY&H Quality and Equalities Impact Assessment (agreed at the January 2019 Joint Committee)
- The policy or pathway is presented at the WY&H Planned Care Alliance Board to ensure representation and agreement from all five CCGs within WY prior to recommendation to the Joint Committee.
- Development and discussion at Joint Committee and / or Clinical Forum
- Decision at Joint Committee

Hydroxychloroquine and Chloroquine Monitoring

5. Hydroxychloroquine is being increasingly used to treat autoimmune diseases with established roles in both dermatology and rheumatology and emerging treatments in oncology, as it has been shown to be safer and demonstrate better outcomes than other immunosuppressive agents. Whilst hydroxychloroquine is a safe and cost-effective medication, particularly when compared to newer anti-inflammatory medicines, some patients taking hydroxychloroquine (or a similar medication called chloroquine), are at risk of vision loss due to the long-term effect of hydroxychloroquine on the retina.
6. This condition where hydroxychloroquine can affect the retina and vision when taken over a long period of time is called hydroxychloroquine retinopathy. The risk of hydroxychloroquine retinopathy increases over time i.e. the longer a patient is taking the medication. Studies have shown that 7.5% of patients taking hydroxychloroquine for more than five years may have some signs of retinal damage detected on specialised tests and that 20-50% of patients taking hydroxychloroquine for more than 20 years may have some signs of hydroxychloroquine retinopathy. If advanced and undetected, hydroxychloroquine retinopathy can cause symptoms of loss of peripheral vision and central vision (later stages), impacting on a patient's quality of life and daily activities such as driving and reading.
7. Some patients are more at risk of developing hydroxychloroquine retinopathy. These are people with pre-existing conditions such as systemic lupus erythematosus (SLE), renal impairment and also those taking tamoxifen.
8. Through the use of specialised retinal imaging techniques (i.e., spectral domain optical coherence tomography: SD-OCT) and widefield fundus autofluorescence imaging (FAF) it is possible to detect early signs of hydroxychloroquine retinopathy before retinal damage is detectable clinically and before the patient experiences and recognises symptoms. Hydroxychloroquine retinopathy is rarely seen within the first five years of treatment but can become more common with a longer duration of use.

9. Hydroxychloroquine is commonly used in rheumatic diseases, including Rheumatoid Arthritis (RA), Systemic Lupus Erythematosus (SLE) and Sjogren's syndrome (SS). The overall minimal prevalence of RA is estimated to be 1.16% in women and 0.44% in men in the UK. The estimated prevalence of SLE in the UK is 0.1%. As such, the majority of these patients would be expected to have been prescribed hydroxychloroquine at some point during their disease course. It is estimated that there are around 160,000 users of hydroxychloroquine in the UK. We estimate there are 6600 people in WY&H who are regular users of hydroxychloroquine and around 20 taking chloroquine, but about 5,000 of these will have stopped using the drug by three years.
10. In December 2020, the Royal College of Ophthalmologists (RCOphth) issued updated clinical guidance on Hydroxychloroquine and Chloroquine Retinopathy Monitoring due to newly published evidence, then prompting a review. The RCOphth January 2020 update recommends that patients planning to take hydroxychloroquine for over 5 years are referred for annual monitoring after 5 years of therapy for ongoing annual review for low risk patient cohorts and that baseline assessment is no longer necessary. The update also included moving the parameters for renal impairment classification from an estimated glomerular filtration rate of less than 50ml/min/1.73m² to estimated glomerular filtration rate of less than 60ml/min/1.73m².
11. Recent data has highlighted that hydroxychloroquine retinopathy is more common than previously reported. The prevalence in long-term users appears to be around 7.5% and depending on dose and duration of therapy can increase to 20-50% after 20 years of therapy. Risk increases for patients taking more than 5mg/kg/day. This is important as the only intervention to prevent further damage is stopping the drug. The risk is increased for patients taking more than 5mg/kg/day, those also taking Tamoxifen, and those with renal impairment.
12. It has also been found that since the initial guidance in 2018, Chloroquine is more retinotoxic than initially understood and is more retinotoxic than hydroxychloroquine, therefore the updated guidance supports this and advises more regular monitoring, with earlier commencement of that monitoring at 12 months.
13. During engagement there has been clinical consensus from both ophthalmologists and rheumatologists from across the WY&H region that for the majority of patients on low doses of hydroxychloroquine monitoring would not be required before 5 years. It is no longer deemed necessary to have a baseline result prior to 5 years i.e., 6 – 12 months from commencing treatment or at 3 years.
14. The WY&H agreed pathway for patients initiated on hydroxychloroquine treatment on doses lower than <5mg/kg/per day and without pre-existing conditions will be referred to ophthalmology by the prescribing clinician for monitoring within 5 years. Patients initiated on hydroxychloroquine treatment on doses greater than >5mg/kg/per day or with pre-existing conditions will be referred to ophthalmology by the prescribing clinician within 12 months. Patients who are initiated on chloroquine will be referred to ophthalmology by the prescribing clinician within 12 months as chloroquine has been found to be more retinotoxic. Initial and annual monitoring will include: at each monitoring visit, patients

should undergo imaging with both spectral-domain optical coherence tomography (SD-OCT) and widefield fundus autofluorescence imaging (FAF). If widefield FAF is not available, FAF can be acquired in several photographic fields to encompass the macula and extra-macular areas.

15. Rheumatologists routinely advise people who are receiving hydroxychloroquine to have their eyes tested before commencement of treatment and annually thereafter in line with the SPC (Summary of Product Characteristics), however this examination is incapable of detecting the changes caused by hydroxychloroquine retinopathy.
16. If hydroxychloroquine retinopathy is detected, an informed decision about whether to continue with treatment and the associated risks and benefits should be made by the patient with their clinician.
17. The amended proposed pathway is included at appendix 2 and the amended policy at appendix 3.

Engagement and Consultation

18. There has been no further engagement and/or consultation carried out for these amendments apart from clinical engagement via electronic means with rheumatologists, ophthalmologists, and pharmacists due to the current Covid19 pandemic and all work being conducted remotely. There is a strong consensus that these amendments are logical and do not place any patients at increased risk or disadvantage and as such, should be adopted.

Quality and Equality Impact Assessment

19. Please see the original completed QEIA (appendix 4). There has been no requirement to undertake a new QEIA or review the current QEIA as the patient populations remain the same and there are no negative impacts expected.
20. The groups of people within the pathway and policy are:
 - a. Patients who are prescribed hydroxychloroquine or chloroquine
 - b. Secondary care clinicians who will need to take account of this guidance when initiating patients on hydroxychloroquine or chloroquine.
 - c. Primary care staff, in particular, General Practitioners, as they will need to take account of this guidance when continuing to prescribe hydroxychloroquine or chloroquine and also ensuring timely referral of patients for monitoring.
21. Autoimmune diseases are more common in women than men; lupus is about nine times more common in women than men and people of Black African heritage are about three times more likely to develop lupus and are more likely to develop the condition at a younger age, especially women aged 20-49. Women are up to three times more likely to develop rheumatoid arthritis than men. Tamoxifen is used to treat breast cancer; breast cancer disproportionately affects women.

22. This suggests that women will be more affected by this pathway and policy and therefore stand to have more benefit from its implementation.
23. The QEIA (see appendix 4) demonstrated that introduction of this amended pathway and policy will have a positive impact on patient experience and patient safety. It will ensure that patients across West Yorkshire and Harrogate who are prescribed hydroxychloroquine or chloroquine have the correct monitoring and follow the same pathway. This will prevent avoidable sight loss to patients and avoid unnecessary interventions. There are currently no failsafe mechanisms in place to initiate monitoring for patients prescribed hydroxychloroquine or chloroquine. A trawl of GP records will be required to find patients who may be lost in the system.

Impact of Implementation

24. Due to the reduction in the numbers of patients requiring monitoring and baseline assessments there will be an overall decrease in demand on already stretched hospital eye services (HES) services. The updated guidance from the RCOphth states monitoring may alternatively be commissioned in the community similar to a diabetic retinopathy service, which differs from previous guidance that recommended monitoring should be managed within HES. The results of monitoring should be communicated back to the prescribing doctor and it is the prescribing doctor's responsibility to ensure their patients are adequately monitored and to act on the results of monitoring.
25. Assuming the cost of hydroxychloroquine monitoring is around £133 per appointment (based on tariff), we have estimated the cost to each place to support hydroxychloroquine monitoring for all patients who have been taking hydroxychloroquine for 5 years and every year thereafter. Across the CCGs, the total estimated cost to support this per year is £377,454. This is a reduction of £135,128 compared with the previous policy, which was £512,582 per year. The costings are based on prescribing data and are included at appendix 5.
26. As the numbers of patients prescribed chloroquine are so minimal (20 across WY&H according to 2019 data) these have not been costed separately and are included in the patient total data and cost calculations for hydroxychloroquine and chloroquine patients included at appendix 5.

Summary and Recommendations

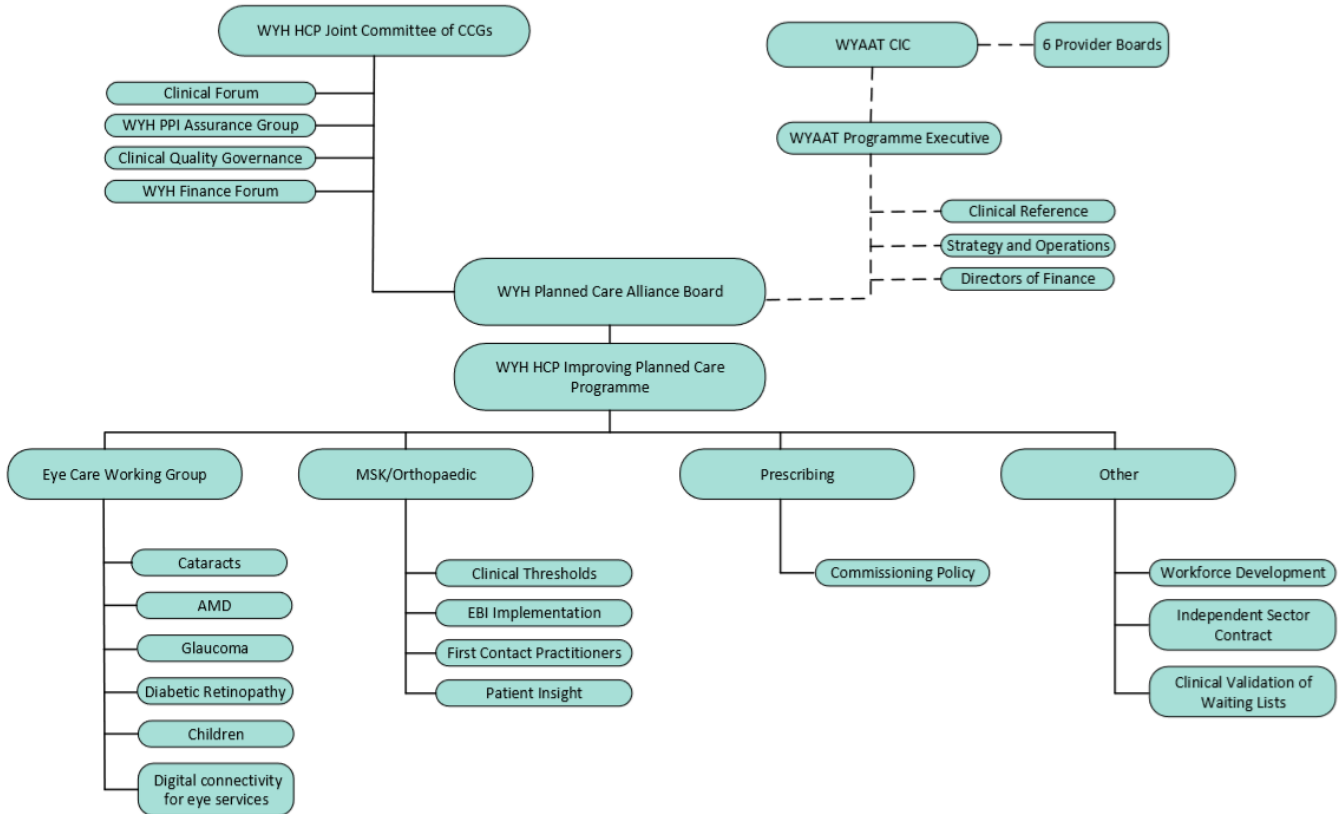
27. The WY&H Joint Committee is asked to approve the amendment to the WY&H Hydroxychloroquine and Chloroquine Pathway and Policy to reflect updated clinical guidance.

WYH HCP Improving Planned Care Programme: WY&H Planned Care Alliance

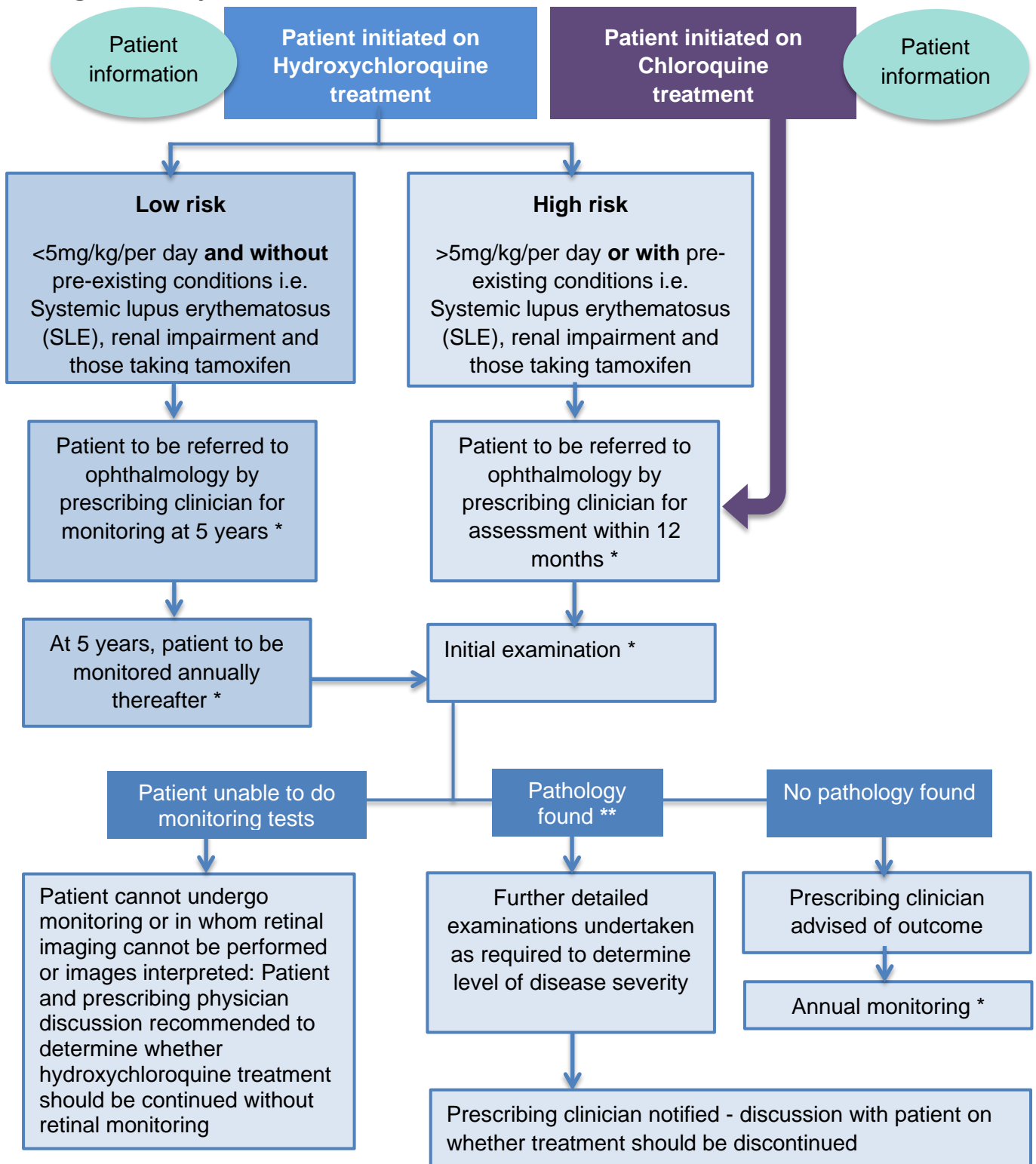
Hydroxychloroquine and Chloroquine Retinopathy Monitoring policy

Appendix 1: Governance Structure

West Yorkshire and Harrogate Planned Care Alliance



West Yorkshire and Harrogate Hydroxychloroquine / Chloroquine Monitoring Pathway for adults and children



*** Initial and annual monitoring protocol:**

At each monitoring visit, patients should undergo imaging with both spectral domain optical coherence tomography (SD-OCT) and widefield fundus colour and autofluorescence (FAF). If widefield FAF is not available, FAF can be acquired in several photographic fields to encompass the macula and extra-macular areas. ** Pathologies other than HCQ retinopathy may be identified in the monitoring process – some of these pathologies may make future monitoring unreliable. The pathway would then remain the same i.e. whether treatment should be discontinued.

Appendix 3: Hydroxychloroquine & Chloroquine Retinopathy Monitoring Policy

West Yorkshire and Harrogate Health and Care Partnership					
Policy	Hydroxychloroquine and Chloroquine Retinopathy Monitoring			X CCG Ref	
First Issue Date	November 2019	Current version:	2021	Last reviewed:	November 2019
Review date	July 2021	Contact			
Clinical Reviewer			Approved by		
Referral?		Prior approval met?		IFR?	
Summary of Policy					
<p>This Policy refers to: Hydroxychloroquine and Chloroquine Retinopathy Monitoring for adults and children</p> <ul style="list-style-type: none"> Hydroxychloroquine is a medicine that is effective in treating various long-term inflammatory disorders of the joints and skin. Some patients taking hydroxychloroquine or chloroquine can suffer permanent loss of vision due to the harmful long-term effect of hydroxychloroquine on the retina. This condition is known as “hydroxychloroquine retinopathy”. Hydroxychloroquine retinopathy becomes more likely the longer any individual is taking the medication and is rarely seen within the first five years of treatment. Some patients are more at risk of developing hydroxychloroquine retinopathy i.e. patients with pre-existing conditions such as Systemic lupus erythematosus (SLE), renal impairment and also those taking tamoxifen. It is possible to detect early signs of hydroxychloroquine retinopathy by monitoring patients who are taking this medication; using specialised techniques that can look at layers of the retina with photographs of the eye. 					
Policy Exclusions					
<p>Short term use of hydroxychloroquine i.e. to prevent and treat acute malaria.</p>					
Monitoring Criteria					
<ul style="list-style-type: none"> All patients who are initiated on hydroxychloroquine or chloroquine should be provided with written information informing them of the risks and benefits whilst taking this medication. Patients should also be made aware of the importance of regular eye tests and monitoring. All patients who are initiated on chloroquine treatment to be referred to ophthalmology by the prescribing clinician for initial assessment <u>within 12 months</u>. All patients who are prescribed high doses of hydroxychloroquine (i.e. >5mg/kg/per day) <u>or with</u> pre-existing risk factors /conditions i.e. Systemic lupus erythematosus (SLE) , renal impairment (parameters being an estimated glomerular filtration rate of less than 60ml/min/1.73 m²) and those taking tamoxifen, to have an initial examination at initiation (within 12 months) and annual monitoring thereafter. 					

- All patients who are prescribed doses of hydroxychloroquine (i.e. <5mg/kg/per day) **and without** pre-existing risk factors / conditions i.e. Systemic lupus erythematosus (SLE) , renal impairment and those taking tamoxifen, initial monitoring should be carried out at 5 years and annually thereafter.
- An initial monitoring imaging with both spectral domain optical coherence tomography (SD-OCT) and widefield fundus colour & autofluorescence (FAF). If widefield FAF is not available, FAF can be acquired in several photographic fields to encompass the macula and extra-macular areas.
- GPs **should not** continue to prescribe Hydroxychloroquine after 5 years unless monitoring has been carried out.
- Patients with abnormalities on either SD-OCT or widefield FAF should undergo central, static, automated visual field testing appropriate to the location of the abnormality seen on SD-OCT or FAF; patients with paracentral defects may benefit from 10-2 visual field testing, and those with pericentral disease may benefit from 30-2 visual field testing. Patients with structural abnormalities consistent with hydroxychloroquine retinopathy, but with no abnormality identified on repeated visual field testing should undergo multifocal electroretinography.
- Where a patient taking hydroxychloroquine or chloroquine cannot undergo monitoring, or in whom retinal imaging cannot be performed or images interpreted, a discussion between the patient and the prescribing physician is recommended to determine whether hydroxychloroquine treatment should be continued without retinal monitoring.
- If hydroxychloroquine retinopathy is detected an informed decision about whether to continue with treatment and the associated risks and benefits can be made by the patient with their clinician.
- Pathologies other than hydroxychloroquine retinopathy may be identified in the monitoring process some of these pathologies may make future monitoring unreliable. The pathway would then remain the same i.e. conversation with the patient as to whether treatment should be discontinued.
- Patients who are taking hydroxychloroquine for 5 years and stop taking the drug will no longer require monitoring. However patients who stop taking hydroxychloroquine due to retinal toxicity monitoring should continue until the retinal changes have stabilised.

Funding Mechanism

Not applicable

Funding request form

Not applicable

Summary of evidence / Rationale

Hydroxychloroquine retinopathy results in largely irreversible structural and functional retinal deficits. The earlier disease is diagnosed and hydroxychloroquine discontinued (if appropriate), the less severe the visual deficits are at the point of detection, and the less likely they are to progress.

The aim of monitoring for hydroxychloroquine retinopathy is to detect the earliest definite signs of the condition to allow those individuals to seek alternative medications in consultation with their clinician. This will reduce the amount of sight that is lost at the time of detection (diagnosis), and reduce the risk of the sight getting any worse by stopping the medication.

Reference

The Royal College of Ophthalmologists; Clinical Guidelines: Hydroxychloroquine and Chloroquine Retinopathy; Recommendations on Monitoring:
<https://www.rcophth.ac.uk/2020/12/hydroxychloroquine-and-chloroquine-retinopathy-recommendations-on-monitoring/> (Accessed on: 03.02.2021)
 NICE Guidance: <https://bnf.nice.org.uk/drug/hydroxychloroquine-sulfate.html> (accessed 10.02.2021)

West Yorkshire and Harrogate Health and Care Partnership Quality and Equality Impact Assessment

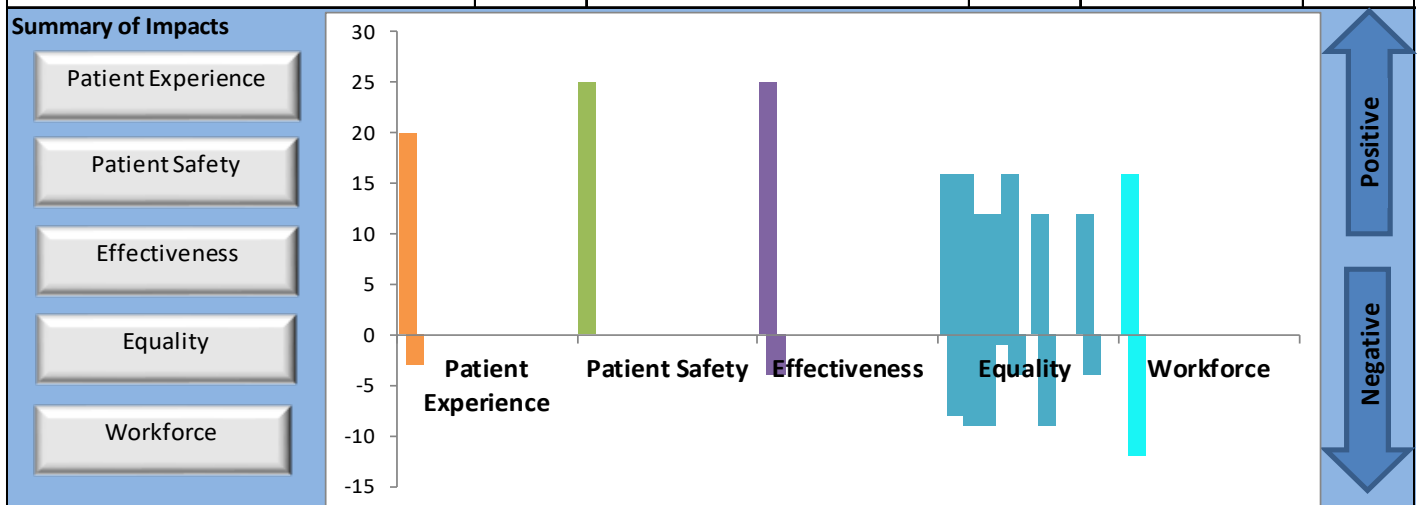
This summary sheet provides an overview of the staff involved, proposed change and a summary of the findings. This assessment consists of five domains: Patient Experience, Patient Safety, Effectiveness, Equality and Workforce.

Title of Scheme:	West Yorkshire & Harrogate Hydroxychloroquine & Chloroquine Retinopathy monitoring - Pathway & Po			
Project Lead:	Rebecca Martin - WY&H HCP			
Clinical Lead:	James Thomas - NHS AWC CCG	Programme Lead:	Catherine Thompson - WY&H HCP	
Senior Responsible Officer:	Matt Walsh - NHS Calderdale CCG	Date:	17th October 2019	

Proposed change:
This is a new pathway and policy for patients who are prescribed hydroxychloroquine or chloroquine. The pathway and policy have been developed in line with the recently published clinical guidelines from the Royal College of Ophthalmologists. Introducing this single pathway and policy will ensure that patients across West Yorkshire and Harrogate who are prescribed hydroxychloroquine or chloroquine have the correct monitoring and follow the same pathway. This will prevent avoidable sight loss to patients, avoid unnecessary interventions, free up clinical time and ensure clinical practice in these procedures is evidence based. Adoption across West Yorkshire and Harrogate will reduce the variation in monitoring offered to people across our region.

Which areas are impacted?

Airedale, Wharfedale and Craven CCG	<input checked="" type="checkbox"/>	Calderdale CCG	<input checked="" type="checkbox"/>	Leeds CCG	<input checked="" type="checkbox"/>
Bradford City CCG	<input checked="" type="checkbox"/>	Greater Huddersfield CCG	<input checked="" type="checkbox"/>	North Kirklees CCG	<input checked="" type="checkbox"/>
Bradford Districts CCG	<input checked="" type="checkbox"/>	Harrogate and Rural Districts CCG	<input checked="" type="checkbox"/>	Wakefield CCG	<input checked="" type="checkbox"/>



Summary of findings:
Positive impact on patient experience & patient safety in the absence of a current failsafe mechanism; adopting a standard pathway to monitor patients to prevent avoidable sight loss. Initial upfront cost of implementation will be offset by the longer term costs associated with looking after people with sight loss. Mainly positive effect on equality. Negatively on women, particularly those of black african heritage who present a higher risk for monitoring and on socio-economic groups in accessing transport to travel to service locations out of their communities. Local action plans to deliver engagement with specific communities. Possible workforce capacity issues to deliver.

Summary of Next Steps:
Effective communications with providers to understand impact on workforce following the implementation of this pathway and policy.
Effective communication with groups with protected characteristics providing information in an accessible format.
Pharmacy leads to ensure a trawl of GP records to find patients who may be lost in the system.

Has this been incorporated into the project documentation?	Yes
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Appendix 5: Data Table 1

CCG Population	CCG Code	CCG	Total	Rate per 1000 Patients	< 3 Years	3 - 5 Years	>5 Years	Cost 3-5 Years	Cost >5 Years	Total Cost
160,203	02N	NHS Airedale, Wharfedale and Craven CCG	348	2.17	118	70	160	£9,310	£21,280	£30,590
156,796	02W	NHS Bradford City CCG	326	2.08	122	50	154	£6,650	£20,482	£27,132
321,424	02R	NHS Bradford Districts CCG	907	2.82	327	160	420	£21,280	£55,860	£77,140
221,756	02T	NHS Calderdale CCG	444	2.00	178	86	180	£11,438	£23,940	£35,378
250,028	03A	NHS Greater Huddersfield CCG	481	1.92	221	97	163	£12,901	£21,679	£34,580
163,882	03E	NHS Harrogate and Rural District CCG	461	2.81	144	67	250	£8,911	£33,250	£42,161
889,410	15F	NHS Leeds CCG	1846	2.08	620	309	917	£41,097	£121,961	£163,058
194,681	03J	NHS North Kirklees CCG	324	1.66	118	53	153	£7,049	£20,349	£27,398
378,075	03R	NHS Wakefield CCG	801	2.12	236	124	441	£16,492	£58,653	£75,145
2,736,255		Total	5938	2.17	2084	1016	2838	£135,128	£377,454	£512,582

CCG Population taken from Apr 2019 list sizes
Average cost of a 1st OP Appointment within Ophthalmology £133 (National Tariff Workbook)

The monitoring policy proposes monitoring at 5 years and annually thereafter. Based on the current prescribing data we estimate 2,838 people would require monitoring each year.

Based on an indicative cost of £133 per ophthalmology appointment we estimate the total cost to WY&H would be £377,454 per annum. The below table highlights the expected impacts, taken from the original data table (table1).

Appendix 5: Data Table 2

CCG Population	CCG Code	CCG	Total	Rate per 1000 Patients	< 3 Years	3 - 5 Years	>5 Years	Cost 3-5 Years	Cost >5 Years	Total Cost
160,203	02N	NHS Airedale, Wharfedale and Craven CCG	348	2.17	118	70	160	£9,310	£21,280	£30,590
156,796	02W	NHS Bradford City CCG	326	2.08	122	50	154	£6,650	£20,482	£27,132
321,424	02R	NHS Bradford Districts CCG	907	2.82	327	160	420	£21,280	£55,860	£77,140
221,756	02T	NHS Calderdale CCG	444	2.00	178	86	180	£11,438	£23,940	£35,378
250,028	03A	NHS Greater Huddersfield CCG	481	1.92	221	97	163	£12,901	£21,679	£34,580
163,882	03E	NHS Harrogate and Rural District CCG	461	2.81	144	67	250	£8,911	£33,250	£42,161
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378,075	03R	NHS Wakefield CCG	801	2.12	236	124	441	£16,492	£58,653	£75,145
2,736,255		Total	5938	2.17	2084	1016	2838	£135,128	£377,454	£512,582