Audit Tool for Azithromycin prophylaxis in severe COPD, bronchiectasis or asthma

Background:
Azithromycin prophylaxis has been shown to decrease the number of exacerbations in those with severe COPD, asthma and bronchiectasis. Consideration must be given to the risk of adverse effects (gastrointestinal upset, hearing and balance disturbance, liver and cardiac effects) and the development of antimicrobial resistance with prolonged use of azithromycin (with loss of macrolides as a future therapeutic option).

Instructions:
1. The aim of this audit is to enable review of patients currently prescribed azithromycin prophylaxis to ensure prescribing is in line with national standards.*
2. Before completing the audit, you must first identify some or all of your patients currently prescribed azithromycin daily or three times a week for > 6 months. This can be done using your prescribing software. Alternatively, your local pharmacist in a pharmacy regularly used by your patients would be able to identify the patients. Extracting this information is easier on some prescribing software than others but is very easily accessed on all pharmacy software.
3. Aim to audit a small sample e.g. three of your patients on azithromycin prophylaxis at a time.
4. Fill out each column on the Data Entry Template overleaf for each of your selected patients on azithromycin prophylaxis

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Good practice points for initiation of azithromycin prophylaxis:

- Azithromycin prophylaxis should be initiated by a consultant in respiratory medicine or a consultant with a special interest in respiratory medicine.
- At initiation, a written plan should be documented and communicated to the GP and patient regarding regular review of azithromycin every 6-12 months.

Severe COPD	Bronchiectasis	Asthma
• 2 or more treated exacerbations in previous 12 months • Non-smoker • Optimisation of inhaler choice, technique and adherence • Optimisation of airways clearance techniques • Pulmonary rehabilitation completed	• 3 or more exacerbations in previous 12 months • Optimisation of airway clearance • Pulmonary rehabilitation	• Symptomatic despite >800mcg / day high dose inhaled steroids • 1 or more exacerbation in previous 12 months • Optimisation of inhaler choice, technique and adherence • Note: azithromycin should not be offered as a way to reduce oral steroid dose

Good practice points for regular review of azithromycin prophylaxis:

Azithromycin prophylaxis should be reviewed every 6-12 months. If there is no evidence of clinical benefit (no reduction in exacerbations) or there is evidence of adverse effects, it should be discontinued. This review can occur at an outpatient appointment, opportunistically if the patient has an inpatient stay or at a routine GP review. At initiation, a written plan should be documented and communicated to both the patient and GP, regarding the ongoing review of azithromycin prophylaxis every 6-12 months.

Review with a view to deprescribing, if any of the following criteria are met:

- No objective evidence of improvement: no reduction in exacerbation number/ frequency, or improvement in symptoms
- ECG changes**
- Change in patient perception of hearing / balance from baseline
- Deranged LFTs or signs of liver impairment including jaundice, abdominal pain, nausea and/or pruritus***
- Other significant side effects, including gastrointestinal / *C. difficile* associated diarrhoea
- On other essential medication with significant drug interactions (*see drug interactions table*)
- Change in sputum microbiology including NTM growth****

If azithromycin is deprescribed, this should be communicated to acute care Consultant, GP, community pharmacist and patient including the rationale.

Important notes regarding this audit tool:

* Exclude patients on azithromycin prophylaxis in cystic fibrosis or post lung transplantation as these indications are beyond the scope of this document/audit tool.

** If QTc is >450 ms for men and >470 ms for women, this is considered a contraindication to initiating azithromycin therapy

*** Azithromycin is contraindicated in liver cirrhosis and cautioned with deranged LFTs

**** Presence of non tubercular mycobacterium (NTM) in sputum would warrant a review of azithromycin with a view to deprescribing. Azithromycin monotherapy should be avoided if NTM is identified. Respiratory physicians may request NTM cultures for at-risk patients, therefore would primarily be identified in secondary care.

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Date of audit:……

			Patient 1 (name/DOB)	*Patient 2 (name/DOB)*	*Patient 3 (name/DOB)*
Initiation details	Q1	Azithromycin Start Date			
	Q2	Has there been a review of risk/benefit of azithromycin within the last 6 months?	☐ Yes ☐ No ☐Unknown	☐ Yes ☐ No ☐Unknown	☐ Yes ☐ No ☐Unknown
	Q3	Does this patient have severe COPD[1], asthma or bronchiectasis*?	☐ Yes ☐ No ☐Unknown	☐ Yes ☐ No ☐Unknown	☐ Yes ☐ No ☐Unknown
	Q4	Was this therapy commenced by a Consultant with special interest in Respiratory Medicine?	☐ Yes ☐ No ☐Unknown	☐ Yes ☐ No ☐Unknown	☐ Yes ☐ No ☐Unknown
	If No to Q3 or Q4 of the above, azithromycin is not being used in line with national guidelines on azithromycin prophylaxis. [1]In this case, severe COPD refers to patients that fall into the severe category or Group D according to the GOLD refined ABCD assessment tool. The refined ABCD assessment tool combines information regarding severity of airflow limitation with information regarding symptom burden and risk of exacerbation.				

Do you AGREE with the following statements?

Azithromycin review	S1	There have been no decrease in exacerbations noted since commencement of therapy.	☐ Yes ☐ No ☐Unknown	☐ Yes ☐ No ☐Unknown	☐ Yes ☐ No ☐Unknown
	S2	LFTs are outside normal range i.e. beyond 2 x upper limit of normal.	☐ Yes ☐ No ☐Unknown	☐ Yes ☐ No ☐Unknown	☐ Yes ☐ No ☐Unknown
	S3	Hearing/balance issues have been checked recently and new issues have been identified/reported	☐ Yes ☐ No ☐Unknown	☐ Yes ☐ No ☐Unknown	☐ Yes ☐ No ☐Unknown
	S4	ECG changes (QT prolongation) have been noted. *(QTc is >450 ms for men and >470 ms for women)*	☐ Yes ☐ No ☐Unknown	☐ Yes ☐ No ☐Unknown	☐ Yes ☐ No ☐Unknown
	S5	Other significant side effects (e.g. *C. difficile* associated diarrhoea) have occurred	☐ Yes ☐ No ☐Unknown	☐ Yes ☐ No ☐Unknown	☐ Yes ☐ No ☐Unknown
	S6	A significant drug interaction(s) has been identified	☐ Yes ☐ No ☐Unknown	☐ Yes ☐ No ☐Unknown	☐ Yes ☐ No ☐Unknown
	S7	There has been documented evidence of non tuberculous mycobacteria (NTM)	☐ Yes ☐ No ☐Unknown	☐ Yes ☐ No ☐Unknown	☐ Yes ☐ No ☐Unknown
	***If Yes to ANY of the above (S1-S7)**: Review with a view to deprescribing. Communicate decision with patient, pharmacist and GP/respiratory consultant* ***If Unknown to any of above (S1-S7)**: Suggest follow up to ascertain answer* ***If No to ALL of the above (S1-S7)**: Azithromycin prophylaxis may be continued for now and reviewed in another 6-12 months.*				
Actions	*Outline what actions you have taken/ plan to take.*				

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Are there any changes you can implement in your practice to improve azithromycin prophylaxis use in your practice?

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