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**8. Paper****8.1 Risk minimisation for disabling and potentially long-lasting or irreversible side effects associated with fluoroquinolones**

- 8.1.1** The Commission were reminded of the previous regulatory actions taken in association with this risk in the UK in 2019, which included a Direct Healthcare Professional Communication, and Drug Safety Update article, introduction of a patient sheet to help healthcare professionals advise patients, and a communication sent via the Central Alerting System.
- 8.1.2** The Commission were presented with a paper reviewing the effectiveness of existing measures to minimise the risk of disabling and potentially long-lasting or irreversible side effects associated with fluoroquinolones. The views of patients were included in the review, these were received by MHRA in writing and at a meeting held with a group of patients and patient representatives. Data considered in the review included patient experiences, spontaneous adverse drug reaction (ADR) data from the Yellow Card Scheme, the results of a Drug Utilisation Study, primary care prescribing data, and data from the scientific literature.
- 8.1.3** The Commission also heard directly from the patients and patient representatives about their experiences of side effects associated with fluoroquinolones and heard feedback from the Pharmacovigilance Expert Advisory Group.
- 8.1.4** The Commission noted that there are multiple factors that can contribute to risk minimisation for this issue, and that both regulatory action, and action in UK healthcare systems more widely, are needed. The Commission considered that any regulatory actions should be proportionate, and that there are some patients seen in primary care for whom fluoroquinolones are an appropriate treatment option.
- 8.1.5** The Commission discussed a range of possible options to further minimise this risk for inhaled and systemic fluoroquinolones. The Commission considered that it would be appropriate to strengthen warnings in the product information, such that fluoroquinolones must not be used if other appropriate options are available. The Commission also supported revision of the description and the frequency statement for these events in line with available data, and that warnings in the Patient Information Leaflet should be made more prominent. The Commission did not consider that there was sufficient evidence to warrant additional regulatory action for topical products at this time, in view of the limited systemic exposure of these products, and the limited clinical data relating to topical products and disabling and potentially long-lasting or irreversible side effects.
- 8.1.6** The Commission supported regulatory communications to remind UK healthcare professionals about this risk and the existing risk minimisation measures, and any additional UK regulatory action taken by MHRA. The

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Commission advised the MHRA to consider the routes for communication in addition to regulatory actions that could maximise distribution of these safety messages, for example publications aimed at healthcare professionals. To increase the reach of safety communications by the regulator, the Commission recommended working in partnership with relevant organisations with an interest in optimising the use of fluoroquinolones, so they are used in scenarios where the balance of benefits and risks is most favourable. The Commission also advised that the MHRA should liaise with manufacturers of electronic prescribing systems, to explore whether additional alerts about the risk of potentially long-lasting or irreversible side effects associated with fluoroquinolones could be introduced in these systems.

**8.1.7** Other regulatory actions to minimise risk, including a patient alert card, restriction of the clinical setting in which fluoroquinolones are used, written documentation of informed consent, or restriction of fluoroquinolones to life-threatening situations only, were not considered appropriate at this time by the Commission, based on their feasibility, likely effectiveness, and the potential for adverse impacts on the UK healthcare system.

**8.1.8** The Commission considered that, in addition to actions that are part of the MHRA’s regulatory remit, more scientific research is needed, including into the mechanisms by which fluoroquinolones cause these events and to develop a case definition for disabling and potentially long-lasting or irreversible side effects associated with fluoroquinolones.

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